AMATEUR CINE WORLD

JUNE—AUGUST, 1945

SUBSTANDARD LAUNCHES OUT
By GORDON S. MALTHOUSE

. . .

NEWS FROM FRANCE
By WALTER H. CHESTER

. . .

TWO REMARKABLE CAMERAS
By G. H. SEWELL, A.R.P.S.

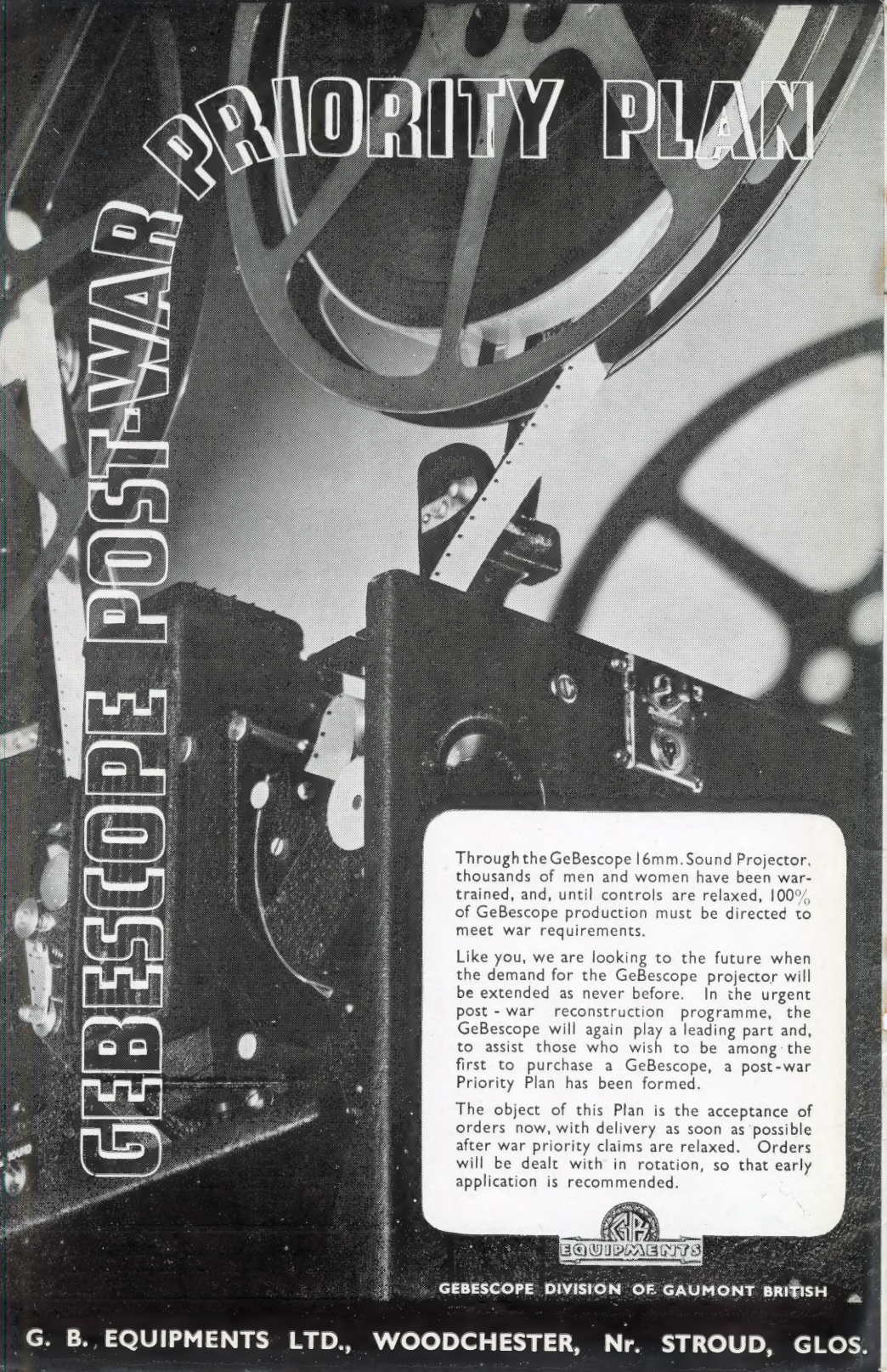
. . .

MULTIPLANE MODELS. Pt. III.
By G. A. GAULD, B.Sc.

. . .

TRACKING DOWN SOUND PROBLEMS
By C. LESLIE THOMSON, B.Sc.

SEVENPENCE



GEBESCOPE POST-WAR PRIORITY PLAN

Through the GeBescope 16mm. Sound Projector, thousands of men and women have been war-trained, and, until controls are relaxed, 100% of GeBescope production must be directed to meet war requirements.

Like you, we are looking to the future when the demand for the GeBescope projector will be extended as never before. In the urgent post-war reconstruction programme, the GeBescope will again play a leading part and, to assist those who wish to be among the first to purchase a GeBescope, a post-war Priority Plan has been formed.

The object of this Plan is the acceptance of orders now, with delivery as soon as possible after war priority claims are relaxed. Orders will be dealt with in rotation, so that early application is recommended.

GB EQUIPMENTS

GEBESCOPE DIVISION OF GAUMONT BRITISH

G. B. EQUIPMENTS LTD., WOODCHESTER, Nr. STROUD, GLOS.

CITY SALE & EXCHANGE

2 · POULTRY • 90/94 · FLEET ST. (1929) LIMITED 23 · ST. MARY AXE

• LONDON · E·C •

Best Cash Offer for your Equipment
or we can arrange Exchanges

Secondhand 16mm. Cine Equipment now commands a much better price and as the leading Cine Specialists we are in a position to make you a really good offer. Many customers have written to say that ours was the best offer they received—so why not save yourself time and trouble by coming to us first.

We wish to buy

16mm. SOUND OR SILENT PROJECTORS. CINE KODAK 'SPECIALS.' FILMO 70-DA'S. 16mm. TURRET HEAD BOLEX. 16mm. MOVIKON, etc.

SCREENS

7′ 10″ × 5′ 10″ **Silver Screen** **£10 10 0**

6′ × 4′ 6″ **Silver Roller Screen** **£7 10 0**

46″ × 32″ **Beaded Roller Screen** **£4 10 0**

and a number of used self erecting and roller screens (40″ × 30″ and 52″ × 40″), send 2½d. stamp for latest list.

Bell & Howell Character Title Writer **£10 0 0**

9.5 Rewinder (takes up to 900ft. reel) **£5 17 6**

16mm. Rewinder, all metal, folding arms, takes 1,600ft. reels **£6 10 0**

35mm. Hyslop Splicer **£2 10 0**

All of these at 127, New Bond Street.

CELEBRATE

"PEACE"

in your home by taking advantage of our unequalled

FILM HIRE SERVICE

We have over three million feet of Travel, Comedy, Drama, Education and General interest films in the following sizes, 16mm. Sound and Silent, 9.5mm. Sound and Silent, 8mm. Silent.

This mine of entertainment is at your disposal any time, and the selected programme is delivered at your own door so do not hesitate, WRITE NOW for particulars of our terms and hiring agreement. A complete list of films in each size is also available on request, price 6d., plus postage 2½d.

OUR REPAIR SERVICE

'Sound' or 'Silent' Projectors overhauled and tuned up. Our expert service can improve the quality of your sound and picture. Estimates given on receipt of full particulars.

FIRST CLASS '9.5' LIBRARY AT CHEAPSIDE BRANCH
(No. 2 Poultry)

Famous before the war as the headquarters for 9.5mm. film enthusiasts. To-day the library is bigger and better than at any time in its existence. Send 6d. to 2, Poultry, Cheapside, for Library List. This branch also has a really good selection of projection lamps and 9.5mm. films for sale. Send 2½d. stamp for details.

We arrange Exchanges

If you wish to exchange your apparatus let us know what you have and what you want. We always have a number of customers on our books anxious to effect a "swap" and have been successful in satisfying a great number in this way.

WALLACE HEATON LTD.

127 • NEW BOND STREET • By Appointment to H.M. The King LONDON • W.1. • & BRANCHES

WHAT WILL BE YOUR INCOME WHEN YOU RETIRE?

You may receive a Pension under the National Scheme.

You may receive a Pension from your employers.

But will your pension be sufficient for your needs?

By means of a Prudential Endowment Assurance Policy you can help to bridge the gap.

Why not secure an additional yearly income of £100, £200, £300 when you retire?

To THE PRUDENTIAL ASSURANCE CO. LTD.

HOLBORN BARS, LONDON, E.C.1.

Please let me know the yearly cost of securing £.....at age.....

NAME ..... DATE OF BIRTH .....
(Mr., Mrs., or Miss)

ADDRESS .....

.....

A.C.W.8.45. P.P.511

Read this **CINE** Offer from

THE SHEFFIELD PHOTO CO. LTD.

NEW Carrying case for 8mm. Kodascope projectors, etc. £2 10 0
NEW Transformers, portable type with carrying handle, input 200v-250v., output 100v-110v. 500 watt. £6 0 0; 750 watt model £7 0 0; 1,000 watt model £8 8 0
NEW Cinecraft Universal service titlers £4 4 0
NEW all metal 16mm. Splicers with dry scrape £6 6 0
NEW T.T. & H. f/2.7 Cooke 25mm. Cine lens in standard mount £11 10 0
NEW round canvas film carrying case, takes 6 400′ spools, with zipp fastener 17 6
NEW geared 16mm. all metal folding 1,600′ re-winders £6 6 0
NEW geared 16mm. 1,600′ rewinders, mounted on wooden base £4 4 0
B. & H. Photo Cell £2 15 0
G.B. Photo Cell for Model 516 Projector £8 6 8
Amprosound Photo cell £5 0 0
B. & H. exciter lamps 9 9

CINE PROJECTION LAMPS

230v.250w. pre-focus cap £1 17 6
210v.-500w. ,, ,, £2 4 6
200v.-250w. ,, ,, £1 17 6
200v.-100w. ,, ,, £1 1 0
100v.-300w. ,, ,, £2 6 4
100v.-200w. ,, ,, £1 11 8
100v.-100w. ,, ,, £1 1 0
50v.-200w. pre-focus cap £1 19 2
50v.-200w. E.S. cap £1 17 6
Pathe type C 18v-9w. 7 1
Pathe Ace 18v.-9w. 5 9
Hunter 16v.-8w. 5 11
Dekko or Kodatoy, 115v.-50w. A.S.C.C. 15 2
Dekko 50v.-25w. A.S.C.C. 8 1
100v.-200w. A.S.C.C. for 8mm. projectors £1 9 10

BEST QUALITY CINE SCREENS

10′ x 7′6″ Beaded £18 15 0
8′ x 6′ Silver £9 10 0
5′ 3″ x 4′ ,, ... £5 10 0
5′ 2″ x 4′ Beaded £7 6 0
4′ 4″ x 3′ 4″ ,, £4 6 0
40″ x 30″ Silver £1 12 6
30″ x 22″ Beaded £1 17 6
24″ x 18″ Silver 17 6
(All with side stretchers.)

PATHESCOPE 9.5mm. SILENT FILMS FOR SALE

S.B.871 "Norway and Sweden" £3 7 4
S.B. 30282 "Scotland." £3 7 4
S.B.847 "Snub the Ferryboat man" £3 7 4
S.B.30047 "Sunless Sunday" (Our Gang) £3 7 4
S.B.756 "Jackie's Fire Brigade" (Our Gang) £3 7 4
S.B.761 "The Count" (Charlie Chaplin) £3 7 4
S.B.651 "Easy Streee" (Charlie Chaplin) £3 7 4
S.B.39393 "Penguin Love Parade" £3 7 4
S.B.30484 "Paris Delivered" £3 7 4
S.B.30482 "The Invasion" (2 parts) £6 14 8
M.1548 "In Scotland and the English Lakes" £2 2 1
M.31073 "Pathways of Perfection" (Railways) £2 2 6
M.30395 "Tailwagger Thief" (M. Mouse) £2 2 1
M.30321 "Stage Struck Donald Duck" £2 2 1
M.30383 "Judge for a Day" (Betty Boop) £2 2 1
M.30389 "Hush-a-bye Baby" (Silly Symphy.) £2 2 1
Complete Catalogue 4½d. inc. postage

We wish to Buy for Cash good Cine Apparatus and we can offer attractive Prices

16mm. SOUND FILMS FOR SALE

"Melody on Parade" Organlogue £5 10 0
"Moonlight Silhouettes" Organlogue £5 5 0
"Follow Thru'" £5 5 0
"Eugene Pini and his Tango Band" £7 15 0
"Leslie Jeffries and his Orchestra" £7 15 0
"Coastline" Interest £7 15 0
"On Cambrian Heights" Interest £7 15 0
"Fire Fighters" 2 parts £13 6 6

Send details first please!

PATHESCOPE 9.5mm SOUND FILMS FOR SALE

T.9550 "The Artful Dodger" (Magazine) £4 8 0
T.9563 "Play Fare" (Musical) £4 12 6
T.9230 "Giants of the Forest" (Magazine) £4 13 6
T.9594 "Open Road" (Musical) £4 13 6
T.9123 "Charlie Shanghaied" (Chaplin) 2 parts £10 17 6
T.9310 "Blue of the Night" (Crosby) 2 parts £9 2 3
Complete Catalogue 6½d. incl. postage

NEW GEBESCOPE L516 PROJECTORS

We shall be pleased to accept your order for first delivery of the above 16mm. Sound Projectors. Price £285 complete, including purchase tax

16mm. SECOND-HAND STEEL REELS AND CANS
800′ reel 9/6, Can 9/6; 1,600′ B & H. 22/6, Can 12/6

NEW ENAMELLED STEEL CINE REELS AND CANS
8mm. reel 200′ 3/6, Can 3/-; 9.5mm. reel 400′ 3/9, Can 1/6; 9.5mm. reel 800′ 11/6, Can 11/6; 16mm. reel 400′ 4/2, Can 1/10

FILM LIBRARIES
9.5mm. Sound
Complete list 6½d. including postage.

16mm. SILENT & SOUND
complete list 4½d. including postage.

FILM LIBRARIES
8mm.
Complete list 4½d. including postage.

Please state clearly which **size** of film and whether **silent** or **sound.** Carriage extra on orders less than £5.

SHEFFIELD SHEFFIELD
NORFOLK ROW (FARGATE) **PHOTO Co. LTD**

Phone: 22079 *Grams: Shefphoto, Sheffield*

THE ACKNOWLEDGED BEST—MOST EXPERIENCED HOUSE IN THE COUNTRY

Opportunities at DOLLONDS

DOLLOND & AITCHISON LTD. EST. 1750

Zeiss Kinox Resistance, 75-100 v., 375-500 w. £3 3 0
Kodak Universal Resistance £9 10 0
16 mm. Rewind, suitable for 800 ft. *New* £6 6 0

SCREENS

Ensign Rigid, 40″ x 30″, silver £1 7 6

The following are all Self-erecting :—

40″ x 30″ Stewart-Warner, silver £5 5 0
40″ x 30″ Actina, white opaque £6 0 0
40″ x 30″ Celfix, silver £6 10 0
52″ x 40″ Actina, white opaque £7 7 6
52″ x 40″ Self-Recta, silver £7 15 0
52″ x 40″ Johnson's Beaded, slightly marked £8 8 0
52″ x 39″ White Self Erecta £7 10 0

Large selection of (New) Cine Screens, prices on application.

PROJECTION LAMPS

The following lamps are class A1 Prefocus, unless otherwise stated.

We regret that these cannot be sent by post.

30 volt 100 watt 14 1
230 v. 100 w. £1 0 11
250 v. 100 w. E.S. fitting 17 7
110 v. 300 w., Prefocus £1 19 6
200 v. 250 w. £1 5 2
210 v. 250 w. £1 5 2
220 v. 250 w. £1 5 2
230 v. 250 w. £1 5 2
240 v. 250 w. £1 5 2

28, OLD BOND STREET
LONDON, W.1.
Tel. : REGent 5048.

Specially wanted at above address Paillard-Bolex G916, Kodascope G.

ENSIGN OPTISCOPES (for 3¼ x 3¼ slides) **NEW**
Model 6L, 8in. Aldis-Uno, and case £26 0 8
Ditto, 6in. Petzval Junior, and case £23 8 6

SCREENS. **NEW**

The following are all Roller-type :—

48″ x 36″ White Matte £2 19 6
48″ x 36″ Beaded £4 4 0
60″ x 45″ Silver £4 8 0
72″ x 57″ Silver £7 10 0

The following are all Roller-type with stretchers :—

	Silver	Beaded
40″ x 30″	£1 10 6	£3 1 6
46″ x 35″	£2 1 6	£3 7 6
60″ x 45″	£4 6 6	£5 15 6
72″ x 54″	£5 13 6	£7 19 6
84″ x 66″	£7 12 6	£10 9 0
96″ x 72″	£9 13 0	£12 8 0

SUNDRIES. **NEW**

16 mm. Film Rewinds for 1600′ £7 10 0
16mm. Gaumont British Sound News-reel, approx. 325′, unspooled £3 16 0
9.5mm. Pathe Talkie Films .... *from* £3 10 0
9.5mm. „ Silent Films 30′ 6 9
„ „ „ „ 60′ 12 8
„ „ „ „ 200′ £2 2 1
„ „ „ „ 300′ £3 7 4
Holborn Monolite Outfit for lantern (without lamp) £2 17 6
16mm. 1600′ reels £1 5 0
„ „ cans £1 5 0
„ 800′ reels 8 6
„ „ cans 12 6
„ 400′ reels 2 9
„ „ cans 1 9
9.5mm. 300′ reels 5 0
„ „ cans 1 9
Film Cleaning Solution 2 6
Kodascope Lubricating Oil 1 3
Film Cement 1 9
Film Humidifier 2 6
Film Fading Solution 3 0
Film Anti-Scratch Solution 3 0

SECOND-HAND

Wooden Lantern (Archer), without lamp £5 5 0

73, LORD STREET,
LIVERPOOL
Tel. : Central 6711

Supplies of Cine Cameras and Projectors are still very limited and are not often advertised by us as they are usually sold before the advertisement appears. We invite your enquiries, however, and in a surprisingly large number of cases we are still able to satisfy these. Remember that all apparatus purchased from Dollonds is guaranteed by an organisation that has been established for nearly 200 years.

We urgently want to buy apparatus, and offer the highest possible prices.

AMATEUR CINE WORLD

Incorporating "Miniature Camera World"

SUMMER
JUNE — AUGUST, 1945
VOL. II. No. 7
(Old Series, Vol. X, No. 4)

THE ONLY JOURNAL SOLELY DEVOTED TO SUBSTANDARD CINEMATOGRAPHY

AMATEUR CINE WORLD is published quarterly from Link House, 24, Store St., London, W.C.1.

SUBSCRIPTION RATE: 2/10 post paid (four issues)

GORDON S. MALTHOUSE, *Editor*

Substandard Launches Out

THE amateur film movement is stirring and rubbing the sleep out of its eyes. It yawns, stretches and notes with interest that its lusty step-brother, the commercial substandard film, has grown into a well-filled-out adolescent since the time they were both kids together, six years ago. The amateur is some years older than his step-brother but you wouldn't think it, to look at him. Six years' hibernation has a debilitating effect on the system ; and no doubt the brain is not so good now.

For sometimes he had uneasy dreams about his step-brother. He wondered vaguely if the young man had filched his birthright. You must forgive such chimeras. They are the inevitable result of under-nourishment. Sometimes he wondered idly if he had been doped. (They puts something in your tea, chum.)

But he sees things more clearly now. Young Commercial may be an opportunist, but not at the expense of the Amateur. Indeed, the bigger boy can take the young-old one by the hand and introduce him to the larger life in quite the nicest way. Times have changed since Amateur was put to sleep. Young Commercial knows his way around, and possessing insatiable ambition, is sure to forge still further ahead.

Amateur had to retire for a long time, but at least he is fortunate in having someone to dust round and air the house so thoroughly while he has been away ; not only that, but Commercial has built on new wings. Not all of them are suitable for occupation by Amateur, but each has points of interest and value.

Amateur, therefore, has solid reasons for friendship with Commercial ; and the friendship need not be all one-sided. There is that studious youth, Educational, for instance, who is struggling to get Commercial to see his point of view. Amateur might well be able to help effect better understanding.

But first let us consider Amateur's immediate plans. Taking pride of place is the realisation of the advantages of closer co-operation than hitherto. One indication of this is the news that two important societies in the North, the Hyde and Salford, are contemplating amalgamating to form a new Manchester Amateur Film Club, catering for workers in Lancashire, Cheshire and other northern counties.

Throughout the war joint meetings of these two societies have been held regularly once a month. Many amateur films have been viewed and discussed, and a good number of lectures given on various branches of cinematography. When it is not easy to inveigle lecturers into lecturing, and when the number of people who are available for lecturing to is comparatively small, it is obviously a very sensible thing to combine and share resources.

You might think that when the principal reason for union is about to disappear, the societies would be glad to pursue their own ways, re-establish their own sovereignty. But no. The advantages of amalgamation had proved themselves. They offered more than temporary benefit. So a large membership is aimed at—large enough to attract lecturers from the south and to run important film shows such as the *Amateur Cine World* Ten Best.

Amalgamation is not, however, an unmixed blessing. One does not want everything shaped in the same mould. The artistic vigour of the movement flourishes through the individual. But it must be remembered that film making is a science as well as an art. The science must be assimilated before the art can burgeon forth. An organisation large enough to provide adequate facilities for learning about and practice of the science, and small enough to encourage individualism, offers as much as the amateur can expect to get. It offers him the foundation on which to build. He cannot expect, and should not want, more.

Another advantage of an organisation such as the proposed Manchester Amateur Film

Club is that it makes for decentralisation. The North is not a colony of the South. It should not have to wait on orders from London. It should not necessarily be influenced by London. But while the utmost friendliness exists, and no one would suggest that there is ever any question of giving or taking orders, the fact remains that while there are branches everywhere, London and the Home Counties are the head office. Decentralisation that takes into account local conditions and is on a basis broad enough to escape any charge of parochialism is surely all to the good.

Coincident with the announcement of the proposed formation of a large amateur cine club in the North is the news of the formation of a Federation of English and Welsh Film Societies. The object of the Federation, in addition to protecting and furthering the interests of film societies, " is to secure an exchange of views, to facilitate negotiations with the film trade, to systematise bookings, deal with Government Departments in securing a reasonable interpretation of the law, give technical and legal advice, and finally to encourage the formation of new societies."

Here we have Commercial, in his attractive guise of cultured gentleman, extending the hand of friendship to Amateur, for membership is open to societies working in 16mm.—the terms being the same as for the 35mm. societies.

It is not, of course, suggested that the latter are commercial organisations. They do not make or show films for profit, but they do show commercial films : documentaries, continental productions, scientific films, experimental films, the more intelligent of the British and American entertainment films, and so on. They are primarily film appreciation groups. The aesthetic background which the 35mm. societies can provide for the 16mm., and the practical knowledge which the 16mm. can offer the 35mm. surely furnish a very useful exchange.

It seems to us that there is a lot too much film appreciation and too little film understanding for the healthy growth of the cinema. Consider, for instance, the appallingly low standard of film criticism in the British Press, speckled as it is by a few brilliant lights that merely serve to accentuate the general gloom. The recipe is invariably the same. Take an appraisal of the performance of the stars, spread evenly on a synopsis of the story, beat up into a batter and garnish with smart remarks.

No one should be allowed to air his opinion about films publicly until he has learnt the rudiments of the making of films. After all, a liking for music is not in itself considered sufficient equipment in a music critic. How can a film critic hope to guide anyone else's taste without impertinence if he lacks any knowledge of how the film is put together ?

Miss A turns in a wonderful performance in the title role. Does she, now ? And what sort of performance does the film editor give ? Because, of course, the relation of shot to shot and the position of each in a sequence is rather important. Miss A can be made to appear pensive, sad, gay, doubtful or determined with scarcely a change of expression, provided the editor knows his business better than she knows hers. And that thrilling scene that gripped you at the end. Strange to reflect that part of its effect was due to the physical length of the shots.

In the preface to his recently published " Four Plays " (one of which has been filmed), Mr. J. B. Priestley bemoans the fact that the Press regards the theatre as an eccentric poor relation of the films. " We need," he writes, " some serious young dramatic critics, who, when paper is plentiful again, are given adequate space in which to express themselves. Finally, there should be Schools of Drama established in our universities like those magnificently equipped schools at Yale and Harvard and elsewhere in America, where the theatre has gained enormously from its thousands of trained students from these schools."

Mr. Priestley deplores the standard of theatre criticism, and advocates courses of instruction for its betterment. A means of bettering the standard of film criticism—and, at the same time, that of the cinema—may well lie in the fusion of the 16mm. and 35mm. groups.

One may theorise for hours on montage, but not until one has actually wielded the scissors for oneself can one fully appreciate the niceties of the art. As Charles Frend pointed out at a recent meeting of the British Kinematograph Society, it is not really possible to formulate rules for cutting : what would be right in one context may well be wrong in another. " It is a matter of trial and error, and requires great patience." The results may not always be successful, but one can learn from mistakes as well as from text book instruction on the avoidance of them.

This, then, is the measure of the contribution the amateur cine clubs can make to the 35mm. film societies : a leavening of theory by practice. In return, they may expect to receive a wider aesthetic background than they could easily obtain by their own unaided efforts.

Young Commercial, like his relations, has also started a federation : the Film Producers' Guild Ltd., an association of producers and

distributors of documentary and propaganda films. True to the tradition of the professional cinema, it describes itself as the "largest film organisation of its kind in the world."

"It will be vital for us," said Sir John Anderson in his budget speech, "to increase our export trade. It will be a matter of life and death . . . but the Government cannot make the export trade. That depends on the manufacturers, merchants and work people of this country." The Guild aims to promote export trade through the film. And it will be 16mm. that will be used.

The normal practice is to photograph on 35mm., and then reduce to 16mm., but already there are a few companies filming in 16mm. There may well be more of them soon, since a new 16mm. emulsion has been developed—it is not yet available in 35mm.—which, it is claimed, can yield better quality than recording on 35mm. and reducing to 16mm.

Since, however, manufacturers will also want the films shown in the cinemas, 35mm. will doubtless continue to be used. But they will rely on 16mm. for their main distribution. And they will be able to do so because the public has been taught by the Ministry of Information, and the Services by their own film organisations, that the pictures can go to them almost as easily as they can go to the pictures.

This is the era of the road show. It began tentatively a few years before the war. It reached fruition during the war. The harvest will be ready for gathering in the immediate future. Amateur will undoubtedly benefit, since the greatly increased use of substandard commercially must result in technical improvements and lowering of prices. Before the war it was the restricted field that kept prices high. Expand the market and you decrease cost per capita.

For Further Information

FOLLOWING are further details of the organisations mentioned above and news of other societies :

New Manchester Amateur Film Club. Workers willing to give support to the venture are requested to communicate with one of the societies concerned, viz., Hyde C.S., Hon. Sec., G. Wain, F.R.P.S., 170, Dowson Road, Cheshire ; Salford C.S., Hon. Sec. A. O. Johnson, "Tintagel," Fairfax Drive, Wilmslow, Cheshire.

Federation of English and Welsh Film Societies. Temporary address : 4, Great Russell Street, London, W.C.1. A dozen societies have already joined and paid their first subscription, which is on the basis of £1 per 100 members ; membership is open to amateur cine societies on the same terms.

Prior to the first annual general meeting, which has been fixed for Sept. 8th, it is hoped to arrange one or more viewings of films which may be suitable for inclusion in next season's programmes. Efforts are being made to acquire material illustrating recent developments in Sweden, South America and France.

Film Producers Guild, Ltd. Sec. John M. Ward, Guild House, Upper St. Martin's Lane, London, W.C.2. Its associates are : Sound Services, Verity Films, Ltd., Publicity Films, Ltd., Merton Park Studio, Ltd., Technique Film Productions, Greenpark Productions, Ltd. and Gryphon Films.

Institute of Amateur Cinematographers. (Correspondence to "Valeda," Wildernesse Avenue, Sevenoaks, Kent.) We are very glad to note that the I.A.C. News has grown out of its utility dress of stencilled typewritten sheet, and extend a welcome to its successor : a printed 12-page bulletin. The first number contains a preliminary announcement of the 1945 I.A.C. Contest (closing date, June 30th). Full details will be given in the next issue—publication date of which is not stated. The competition is open to all amateurs, and films in all gauges, from 8mm. to 35mm., silent or sound, may be entered.

Members report interesting experiences and opinions. Newport and District A.F.S. write that when they gave shows on balloon sites an 8mm. and a 16mm. projector were sometimes used, but that even with an 8ft. screen no one ever noticed the change-over from one size to the other. Praise indeed for the 8mm. Filmo !

T. P. Connor, Hon. Sec., Dominion Motion Picture Club, London, N.6, affirms that, in his view, the reason why some amateur films fail is because they are made for showing to only a few people. He reckons that if amateurs knew that their films would be screened at dozens of clubs throughout the country and perhaps overseas, they would take more trouble over them. A tenable argument ? Or is the premise unsound ?

The editors urge that whenever societies (or their members) make an outstanding film it should be duped at once. I.A.C. Library statistics show that dupes will stand up to over 500 projections with reasonable care.

Sheffield Photographic Society. The cine group, suspended during the war, is to re-open. There is already a fair-sized potential membership, but lone workers or members of disbanded societies in the locality are invited to join. Details from D. J. D. Wood, Hon. Group Sec., 21, Moorbank Road, Sandygate, Sheffield, 10.

News from France

The Amateur Cine Movement Carries On

WHAT of the amateur cine movement in France? Is it dead, moribund? Can it quickly revive? The sombre news that reaches us of deprivation and want would seem to preclude even a mildly optimistic answer to these questions.

Four long, weary years of German occupation, acute shortage of food and many essential commodities must surely have blighted any artistic growth. But in saying this we reckon without the remarkable resilience of the French character—a resilience which the amateur film-maker fully shares, aided by an enthusiasm that constraint and isolation could not check.

Though all club activities had to cease, the movement has been kept alive by individual effort. Like us, they have been hindered by lack of film and equipment; and prices reached astronomical figures. But even so, the French amateur is, to a large extent, quite in step with our wartime progress. He has very little leeway to make up.

It must, of course, be admitted that, before the war, France and many parts of the Continent enjoyed certain advantages. New material and equipment have frequently been introduced there first, chiefly because of economic considerations. There were, for instance, many small provincial cinemas exhibiting on 16mm., so that the amateur reaped the benefit of innovations and improvements produced primarily for commercial use.

It was only five months after D Day that members of C.A.C.F., the French amateur cine organisation, were informed that Gevaert are to work under licence the Agfacolor process in 8mm., 9.5mm. and 16mm. in the near future. Almost certainly its appearance in France will be quickly followed over here. The low voltage (high wattage) lamp still retains its pre-war popularity.

Some 16mm. Kodachrome seems to have been available, though doubtless only in very limited quantities. One member of the Paris section of C.A.C.F.—a doctor—made a colour cartoon, a satire on Tristan and Isolde, with sound-on-disc accompaniment. It took him three years and when shown at the Paris club (now resuscitated) made a very favourable impression.

As an example of diligence it reminds one of Paul Simon ("Un seule ennemi, l'envahisseur"), editor of the underground newspaper, "Valmy." The Nazi confiscated all printing presses and duplicators, but that did not deter him. No, he got hold of some toy printing outfits and set up the paper with bits of rubber type.

The French amateur sadly misses his own magazine, "Cine Amateur." It ceased publication in 1940, when its editor, Pierre Boyer, was called up. He has since moved into the professional field, a step regretted by many for, as the founder of the French amateur cine movement, he exercised considerable influence.

The liberation set whirring cameras that had long been silent. Members of the Paris club exposed their precious stock of film individually in various parts of the city. The total bag was edited and built into a composite reel of some 400ft. with a sound-on-disc commentary. I am told that it is far more comprehensive than the professional news reels, and I know that their standard of photography is a high one. (The colour film of the Coronation of King George VI, made by the London Amateur Film Club, affords an interesting comparison. It was made by similar methods and was widely held to be an advance on the professional news reels—Editor.)

I have often tried to discover the secret of French progressiveness in the substandard cinema. There are several factors to take into consideration—foremost, the wonderful team spirit among club members. Quite apart from individual effort already instanced, they gain much by pooling resources, exchanging ideas, and working out problems together.

Another point to remember is that the French are among the most intelligent, and are undoubtedly the most artistic, people in the world; hence the cinema lends itself as an excellent vehicle for translating some of their artistry. I cannot escape entirely from the snare of comparisons in expressing the conviction that many amateurs here in Britain tend to look upon the cinema as an interesting hobby, whereas the French take it very seriously.

When sound (with film) was first introduced, they were quick to sense its potential artistic value. During these early days, the usual efforts were made to match music to existing films, but it was soon appreciated that the reverse process was the better approach.

Many amateurs here believed, and still do, that incidental mood music is a useful form of "upholstery," and it is quite understandable that many should consider it principally as a ready means of stifling the clatter of the projector. The French amateur on the other hand realized more quickly the fact that music should be an integral part of the film.

I can call to mind a number of excellent French films produced on these lines. The method is still the same to-day. A musical theme, or score, is chosen from commercial records and plots are worked out from it—not only abstractions, fanciful picturisations of the mood evoked by the music, or scenics which lend themselves fairly readily to musical interpretation, but "straight" plays as well. (This method was recommended independently by *Amateur Cine World* many years ago, but has yet to be widely adopted in this country.—Editor.)

What of the future of the French amateur film movement? I suggest that its success is bound up with that of *our* movement. In my view, every opportunity should be taken of promoting closer co-operation between the two; mutual benefit would certainly result. I have enjoyed the friendship of French amateurs over many years and have found them keenly critical, but appreciative of real effort, going to great lengths to help with suggestions and ideas. If contact with them should have produced such valuable, stimulating results in an individual case, how much more effective would be the liaison between the two movements as a whole!

by Walter H. Chester

Film Damage By H. A. V. BULLEID

BOTH library and personal films are becoming increasingly precious, and in addition to the common forms of damage there is an alarming increase in damaged perforations due to:—

(a) heavy metal reels—in particular 400ft. 9.5mm.

The take-up reel, specially at the start, revolves comparatively quickly; and if momentarily checked by film dragging on bent sides, or reel fouling projector stand or flex, it will snatch the film from the bottom sprocket as it regains freedom, resulting in torn or strained perforations. This is aggravated by the weight of the reel and the small core diameter.

(b) too-tight take-up belts

On some projectors this belt is too tight or the pulleys are rough, so that slip is not sufficiently easy. The same applies to some home-made 800-900- and 1600-foot extension arms. Result is that the film is dragged past the sprocket by brute force and all perforations ruined or at least strained.

These factors account for a large proportion of sprocket damage, particularly in the first quarter of a reel.

The test of a take-up belt is that it should be *just* strong enough to wind up the film (without excessive sloppiness) when the take-up reel is *full*. It must be remembered that, though the torque remains constant, the pull is nearly 7 times greater when the film is being wound up at the centre than at the outside of the reel—taking the case of a normal 7 inch dia. reel with 1 inch dia. core. For this reason, an 800ft. reel should have a core 2ins. in dia. at the very least, and preferably 2½ to 3 inches.

The Helpful Dealer

FROM time to time we receive from readers enquiries as to whether this, that or the other facility is available on the market—such things as titling services, special solutions and so on.

While we are always very ready to help our readers in every way, particularly those in remote places and those in the forces, it is observed that many of these enquiries come from large centres where there are photographic and cinematographic dealers who have for many years past been in the forefront for providing good service.

We feel that, in the circumstances, readers should realise that in these difficult times conditions are peculiar in that they vary very considerably from place to place, and depend to a large extent on the enterprise of the dealers referred to. As far as the supply of commodities and services are concerned, it is practically impossible to give an answer that would apply equally to all parts of the country.

It is in the interests of dealers and customers that the very good work being carried out by the former under most difficult conditions should be recognised by the latter, and we earnestly advise readers that they should make their wants known to their local dealers, or the dealers in the town nearest to them, before seeking information from ourselves or any other source which, in the nature of things, can give only very general information.

Maximum Speed Cinematography

Two Remarkable Cameras

By GEORGE H. SEWELL, A.R.P.S.

IT is a known fact that a film record taken with the camera running faster than normal and then projected at the normal picture frequency will give a screen image in which the apparent speed of motion of the subject is slowed down. This principle, carried as far as modern principles of design permit, is a valuable addition to the tools of the research worker.

The normal camera uses an intermittent movement to pull down the film, hold it stationary while the picture is taken, and then pass it on to receive the next exposure. The inertia inherent in such a system limits the possible picture frequency, and 300 frames per second is generally regarded as the limit in 35mm. cameras of this type.

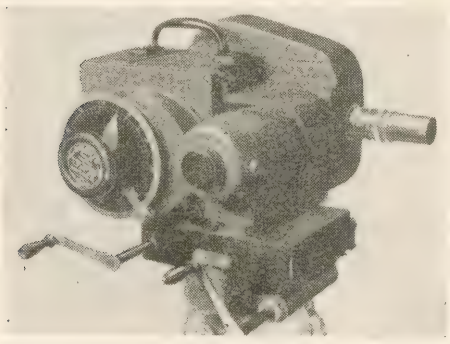
Designers concentrated on the elimination of intermittence in high speed camera design, and evolved instruments in which a number of lenses mounted on a large ring spun in phase with a continuously moving film band. In other cases film was clamped around the periphery of a drum and rotated at high speed.

The limiting factor was that these devices tended to burst at high speed. A great advance has been gained by the introduction of the rotating glass block type of camera, typified by the Eastman Kodak High-Speed Camera Type III and the Western Electric Fastax High Speed Camera developed by the Bell Telephone Laboratories. The former uses 16mm. film, and the latter is of two types using 16mm. and 8mm. film respectively.

If a plane parallel glass block is placed in the path of a ray of light at right angles to it, the ray will pass straight through it. If, however, the block is rotated about its axis the light ray will be bent on entry to and emergence from the block and will proceed along a path parallel to its original direction, but laterally displaced.

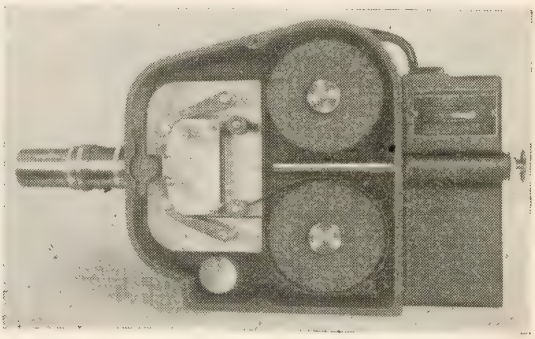
If this rotation is so timed that it is synchronised exactly with the surface movement of a piece of film moving behind the block, then the image of the stationary light ray will travel downwards at the same speed as the film and will remain "stationary" on the moving film.

If you mount the block inside a suitable cylinder open at two opposite sides, this forms a shutter cutting off the rays in between

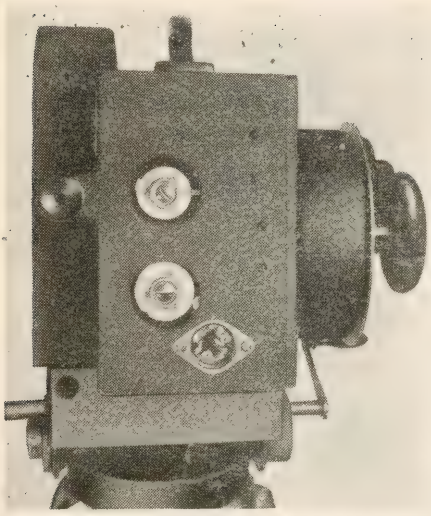


The "Eastman" High-Speed Camera Type III.

★



Interior—note simple threading.



Rear of camera showing (top) automatic cut-out for camera motor; (bottom) control dial and plug for automatically opening or closing an external circuit at any pre-determined instant.

individual exposures. It is now possible to move the whole mechanism at very high speed, and frequencies up to 4,000 frames per second on 16mm. film, or 8,000 frames per second on 8mm. film are obtainable.

At this rate, 16mm. film records projected at normal speed will show recorded movement slowed down 250 times, 8mm. 500 times. 100 feet of 16mm. film will pass through such a camera in one second, each frame receiving an exposure of 1/12,000 of a second. The surface speed attained is more than 68 miles per hour. These are maxima and not often used. It will be realised that the maximum surface travel of the 8mm. film is no greater than for 16mm., twice the number of images being impressed on the same film footage, the individual exposure per frame being reduced to 1/30,000 of a second. For 16mm. film a rectangular glass block is used, for 8mm. an octagonal block is used.

The cameras appear simple in design, but the engineering problems involved are of a very high order. The instruments are necessarily very rugged in construction. The Kodak Type III, which is illustrated here, embodies one powerful electric motor, and a speed control giving a speed range from 500 to 3,000 frames per second.

The Western Fastex has two motors, one driving the rotating block and main film sprocket, the other the take-up spool. The speed control is in the form of an external autotransformer when used with A.C. current, or a variable resistance when on D.C. current.

The normal lens equipment of the Kodak camera is a "Kodak" Anastigmat f/2.7 2½ lens for general work, and an interchangeable f/2.7 4 inch lens for distant work. The Fastax has a built-in f/2.0 2 inch lens.

With such short exposure times it follows that extremely high light intensities are necessary to obtain full exposure. Using Kodak Super XX in bright summer daylight, the practical limit of frequency is 2,000 frames per second. For internal work from 4 to 10 kilowatts of tungsten lighting are necessary, housed in suitable spotlights and floods. Proper lighting of the shadow portions of the subject is of great importance.

It is essential that the film should be wound on the special aluminium light weight spools supplied by Messrs. Kodak, Ltd. for the purpose.

Both cameras embody focussing methods which examine the image at the actual focal plane. The Kodak camera has a built in magnifying focussing finder which, by manipulation of its forward element examines either the full picture frame, or a highly magnified central portion of it.

The Western "Fastax" has a larger finder built on the side door of the camera embodying a prism that sits within the film sprocket and accepts an image directly from the film plane, and projects it on to a ground glass screen at the rear of the finder.

Most of the uses of this type of camera are necessarily secret at the present time, but it is hoped to be able, at a later date, to tell our readers something of the valuable contribution to general knowledge and the conduct of the war in particular which has been made by this specialised branch of substandard cinematography.

BRITAIN'S TRADE REVIVAL

The technical and trade Press form an essential part of the "intelligence branch" of any trade campaign, and Britain's post-war reconstruction will be gravely handicapped if this section of the Press continues under its present major difficulties.

This is the kernel of a memorandum presented to the Government by the Council of the Trade and Technical Press. It asks for more paper so that the demands of new readers can be met and a better service of information given, and for prompt help for the printing trade, which is suffering from a crippling shortage of skilled men and a lack of new and up-to-date machinery.

PASS IT ON !

There are many men and women in the Services who would welcome the chance of reading AMATEUR CINE WORLD. If you would hand it in, unwrapped, unstamped and unaddressed, to any Post Office, it will go to them.

"DO IT YOURSELF!" practical ideas for the handyman

MULTIPLANE MODEL SETS

Part III

In each issue our contributor supplies worth-while ideas: things to make and things to do. Suggestions for gadgets are welcomed.

By G. A. GAULD, B.Sc.

MOST of us will have recollections from earliest childhood of gazing out through a railway carriage window, and the characteristics of the changing landscapes must be firmly impressed upon our minds. We are all familiar with the way in which the telegraph poles flash past in rapid succession ; the more gentle pace of cattle or trees a few fields away ; and the almost stationary background formed, perhaps, by a distant range of hills. This variation in the apparent speed of movement at different distances resulting from lateral movement of the eye or camera forms the basis of the "Multiplane" technique.

A simple illustration is given in Fig. 7A. Here, it is imagined that the railway track passes underneath a line of telegraph poles stretching out across many miles of "desert" landscape. The illustration shows the result which would be obtained on a strip of film were the scene to be photographed with a cine camera and it should be noted how the line of poles appears to rotate about the "vanishing point" on the horizon.

To revert to our "natural" scene of Fig. 1, the effect which would be obtained were the camera to travel along the road is shown in Fig. 7B.

Whether we have learned the rules of perspective or not, these effects are well known to us but it will be instructive to look into the matter from the photographic point of view and find out just why these effects do take place. We shall again assume that we have a lens of 1 inch focal length in the camera and make full use of our old friend :—

$$I = O/D.$$

In Fig. 8A, if X is the hill, distant 5000 feet, and Y the nearest tree in our "natural" scene, distant 35 feet from the camera, let us imagine the camera to move a distance of 10 feet in a direction at right angles to the axis from C to C'. We shall obviously get exactly the same *relative* movement if we imagine the camera to be stationary and the objects to move 10 feet in the opposite direction as shown in Fig. 8B. These movements then produce image movements from x to x' and from y to y' on the film F. Using our formula, we can calculate the magnitude of these image movements :—

$$x\text{-}x' = 10 \times 12/5000 \times 12 = .002 \text{ inches.}$$
$$y\text{-}y' = 10 \times 12/35 \times 12 = .285 \text{ inches.}$$

That is, the image of the near object moves across nearly the whole width of the frame while the image of the distant hill moves an infinitesimal amount. Thus, the nearer the object, the greater its apparent movement across the field of view, confirming our observations through the railway carriage window.

To revert to our model set, if we wish to hold the puppet in the centre of the frame as he walks along the road, we shall find that the easiest way to do this is by keeping the camera and puppet stationary, though imparting a "walking" movement to him, and allowing the background to move past. To secure the realistic effect for which we are striving, however, each plane must be moved to correspond with the apparent movement which would be observed in the life-size scene. Since we have already "compressed" the scene in depth in applying it to the model stage, the calculations for these different rates of movement would appear to be very complex. We can only try it, so let us work out two examples assuming the road to be straight and the camera to be mounted on a trolley running on a parallel track.

In the case considered above, a movement of 10 feet relative to the camera on the part of the hill 5000 feet distant produced an image shift of .002 inches, Reference to Fig. 6 will remind us that in the model set, the hill "plane" is placed 46 inches from the camera. From the formula :—

$$O = I \times D,$$

we shall obtain the same image shift if we move the hill "plane" :—

$$O = .002 \times 46$$
$$= .092 \text{ inches.}$$

Similarly, for the tree at 35 feet, or 26 inches in the model :—

$$O = .286 \times 26$$
$$= 7.43 \text{ inches.}$$

Now these figures should be familiar ; we have seen them before. Turn back to the table in the second article in this series which

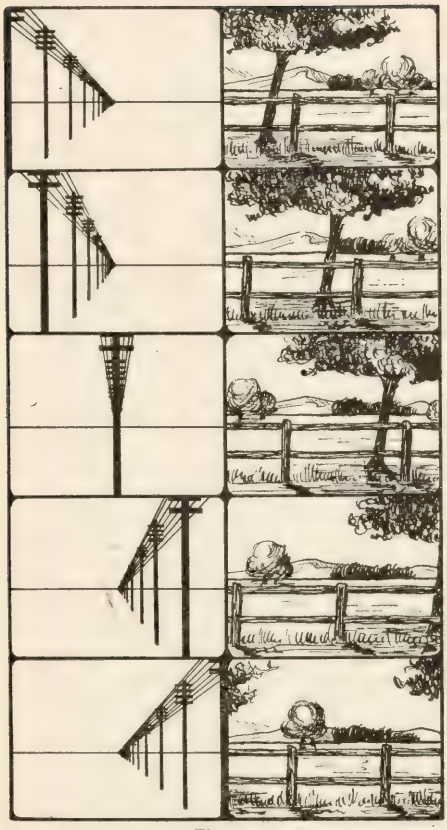


Fig. 7.

gives the true scale of each plane in the model in terms of the equivalent of 10 feet in the prototype. There it is :—

Plane T_1 : 10′ = 7·43 inches
Plane H : 10′ = ·09 inches.

A little thought, and this answer becomes obvious, but explaining it in this way will, I think, prove that we shall get "natural" results in the model by moving each plane at the true scale rate of the original.

Practical methods of accomplishing all this together with a simplification of the calculations necessary must wait for the next article. Meantime, I want to show how, in the model set, we can go one better and reproduce the moving scene in a way even more "natural" than will the camera filming the actual scene, unless the latter is very carefully controlled.

If, in looking out of the railway carriage window, we could "fix" our eyes after the style of a tailor's dummy, so that our line of sight remains constantly perpendicular to the line of the railway track, then we should see the scene in exactly the same way as the camera assuming it to be fixed to the carriage or mounted on a trolley running on the track. In practice, we find it extremely difficult to do this and our natural tendency is to pick out some prominent object some distance away, or more often the most distant object of all. Subconsciously, we keep our eyes fixed on this point and we now see the landscape in a slightly different way apparently *revolving* about the point which we have selected as this has become truly fixed in so far as the retina of the eye is concerned. We get this same revolving effect in Fig. 7A only because the "vanishing point" of the telegraph wires is at infinite distance, and we proved that movement of the image, though slight, did take place in the case of the hill distant 5000 feet. The revolving effect can, of course be accomplished by the cine camera if it is constantly aligned on the feature chosen as the "hinge point." This is often difficult to perform accurately in practice, whereas in the model set, both methods are equally simple.

In Fig. 9A, we get the condition in which the distant object has been selected as the "hinge point," in this case, the hill in our "natural" landscape. We must now imagine the puppet to move a distance of ten feet from P to P′ and that the camera is tracked from C to C′ to keep him in the centre of the frame. In both cases, movement now takes place on an arc of a circle whose centre is at point H, 5000 feet from the camera. The *relative* movements of the other features of the landscape, or planes in the model set (as it does not matter whether the objects move or the camera) will be proportional to their radial distances from the "hinge point" H. Since the movement of the puppet P is 10 feet at a radial distance 5000 − 20 = 4980 feet, we can calculate the remainder by proportions, thus :

$$\frac{F - F'}{HF} = \frac{P - P'}{HP}$$

$$\text{or. } \frac{F - F'}{5000 - 30} = \frac{10}{4980}$$

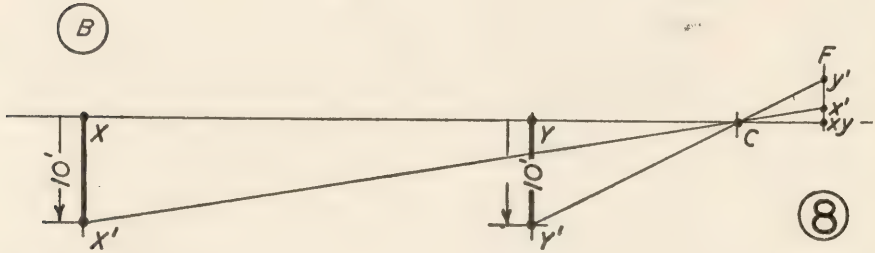
$$\text{i.e. } F - F' = 9.98 \text{ feet.}$$

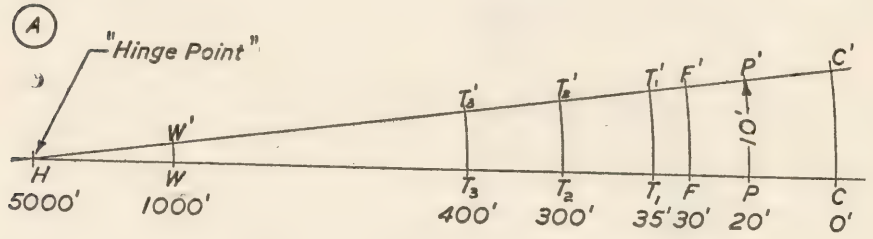
Now we know that the true scale of plane F in the model set is such that 8 inches is the equivalent of 10 feet on the full size landscape, therefore the plane movement required amounts to :—

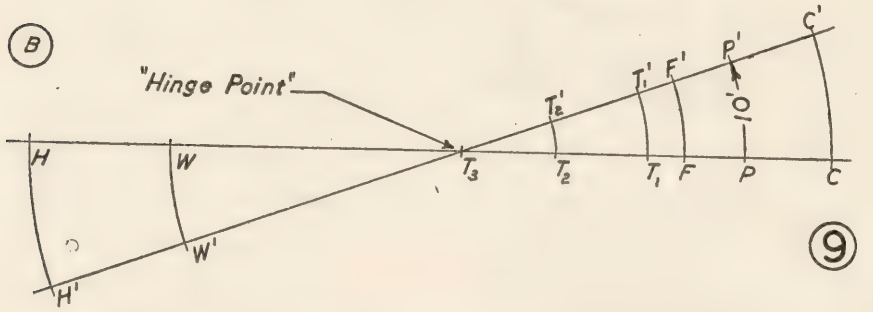
$$\frac{9.98}{10} \times 8 = 7.98 \text{ inches.}$$

The remaining movements are worked out

SAVE PAPER STILL. *Feeding Europe is shipping's first priority. The paper shortage is still acute. Go on saving.*







in the same way with the following results :—

Plane	Arc Movement Feet	Scale Factor	Model Plane Movement
F	9·98	·800	7·98 inches
T_1	9·97	·743	7·40 ,,
T_2	9·63	·107	1·03 ,,
T_3	9·42	·090	·85 ,,
W	8·19	·040	·33 ,,
H	Nil	·009	Nil

The hill is so distant compared with the other selected objects in the landscape that in this particular example the differences between the two methods are relatively small. To give a further illustration, we shall consider the more complicated case in which T3 is chosen as the "hinge point." Here, the differences are considerable and it is to be noted that while objects between T3 and the camera move across the screen in a direction opposite to the supposed direction in which the puppet is walking, objects beyond T3 move in the *same* direction as the puppet. If you find this hard to believe, go outside, take a short walk along the road and confirm it for yourself by direct observation.

This example is illustrated in Fig. 9B, and again, all apparent movements are proportional to the radial distances from T3. Taking our

MULTIPLANE MODEL SETS — continued

basis as 10 feet for the puppet distance 400 − 20 = 380 feet from T3 :—

$$\frac{F—F'}{T_3F} = \frac{P—P'}{T_3P}$$

$$\text{or, } \frac{F—F'}{400—30} = \frac{10}{380}$$

$$\text{i.e., } F—F' = 9.73 \text{ feet.}$$

Multiplying by ·800, this becomes 7·78 inches in the model, and the remainder are as follows :—

Plane	Arc Movement Feet	Scale Factor	Model Plane Movement	Direction
F	9·73	·800	7·78 ins.	"Plus"
T_1	9·60	·743	7·13 ,,	,,
T_2	2·63	·107	·28 ,,	,,
T_3	Nil	·090	Nil	-
W	15·79	·040	·63 ,,	"Minus"
H	105·26	·009	·97 ,,	,,

If the road along which the puppet is walking *is* straight, these calculations hold good only so long as the arc of movement may be considered to be the same as a straight line. Thus, the nearer the " hinge point " selected, the shorter the shot possible, but as this is equally true on the full size scale since we shall select a near object for only a short time, then transfer our attentions to another, no real complications are involved.

One further point of interest should be noted. In any of the three examples given above, if there is an object between the camera and the puppet, it will appear to travel past at a greater rate. In the case of the camera mounted on a trolley, this is because being nearer, the movement of the image will be correspondingly greater and in the other two cases, this effect will be combined with the fact that the arc movement will be somewhat more than 10 feet. This will disclose itself in the calculations and does not mean that there has been an error in the arithmetic.

OVERSEAS READERS KEEP IN TOUCH

A VERY welcome feature of our postbag these past five years (and one which we, personally, have much appreciated) has been the many letters we have received from readers in the Forces overseas. Not all of this correspondence was prompted by queries on technical matters ; indeed, most were letters of friendly greeting, telling us how the writers were getting on and stating what a useful link with home and hobby they found the magazine to be. But sometimes, tucked away almost apologetically, would be a question or a plea on which we were very glad to do what we could to give a satisfactory reply.

Here, for instance, is a disarmingly shy request from 1042734, A.C. Collins, G., 244 Wing, R.A.F., C.M.F. He asks that if ever we " receive any requests from anybody to write to anyone who is intelligently interested in cine production," well, he won't ask us to put them directly into touch with him because he believes—quite erroneously—that we do not publish advertisements of this kind, but he *would* like to hear from someone.

Although VE-Days 1 and 2 have come and gone, it will probably be some considerable time before many Service readers are home again. So don't put off writing because you feel the occasion may have passed. We hope (a) that you'll get many pen friends to keep you in touch with cine affairs, Gerry Collins, and (b) that you'll soon be able to talk over those affairs with them in person, although we fear that age 23 is not a very high number in the release race card. Very good luck to you.

951858, Cpl. Waller, J. F., Advanced H.Q., Desert Air Force, R.A.F., C.M.F., asks if any reader could let him have a copy of " A.C.W." for December last. The demand for " A.C.W." far exceeds the limited supply, and we haven't a single copy available to send him ; but we are sure that if any reader could spare his it would be highly appreciated.

From Burma comes an interesting letter, together with a strip of 28mm. film—one of the very early tentative attempts at a substandand gauge which was soon abandoned. " I picked it up," writes Harry Birrell, 7th Gurkha Rifles, No. 6 Indian Field Survey Coy., I.E., S.E.A.C., " in a Burmese village during the recent advance of the 14th Army. It appears to be part of a newsreel of a Suffragette incident. Possibly the Japs might have introduced it to show the simple villagers what conditions in Britain are like, though this is hardly likely ! " It would certainly be interesting to know how this bit of film got to a village in Burma. Presumably it had been screened. One wonders on what.

" Your magazine still arrives in this part of the world occasionally," our correspondent continues, " and is very welcome. One of the most interesting aspects is the adverts., which give us an indication of prices in the U.K. Kodachrome and black and white film is still available out here, but is now becoming pretty scarce."

We are obliged to an American Serviceman, S/Sgt. Arthur Farrar, for regular reports on 8mm. sound in the U.S. From time to time he has sent us cuttings from a variety of journals, together with interesting comment of his own. In his latest letter he writes : " One of the major problems of sound for 8mm. film is the low rate of speed of the film through the projector. We have all played phonograph records at faster than normal rate and noticed how high and fast was the resulting sound, but when the record was played slower the sound produced was again normal. Similarly, a completed sound track can be sped up and, when run off slowly, normal sound will result. By placing this sped-up sound track alongside an 8mm. film run off at the slow rate of speed required by 8mm. projection, normal sound will result."

An interesting theory, but it would not work out in practice. 35mm. film travels through the projector at a surface speed of 90 feet per minute. 16mm. film travels at two-fifths of this speed, i.e., 36 feet per minute. 8mm. film travels at a speed of 18 feet per minute.

The slower the surface travel the lower the standard of sound quality, because the images of the same number of vibrations have necessarily to be compressed into correspondingly less space—5 feet of 35mm. is represented by 2 feet of 16mm. and 1 foot of 8mm. More and more of the frequency images are beyond the resolution factor of the film, these being the higher frequencies which give intelligibility to speech and the timbre which characterises different types of musical sound.

It is practical to record your sound on a separate film strip running at a greater surface speed than the accompanying picture film, but this sound record must necessarily be projected at the same speed as that used in recording if the same pitch is to be preserved. Speeding up a sound track will increase both the pitch and speed of the music or other record, as is the case with the gramophone disc, while if a record is made either on film or disc at high speed and then run at a lower speed, both the timing and pitch of the reproduced sound will be lowered. So it is not practical to record at one speed and project at another, except when special effects are required.

TRACKING it DOWN

***Secretary:* C. LESLIE THOMSON, B.Sc.**

Secretary's Report

WE spent a most interesting afternoon recently with Mr. Blair, whom many readers will recall as the originator of the "T.I.D. Notes." He brought with him a case full of little pieces of machinery of his own making. The largest single item was a dual-gauge soundhead for his Bolex G916, while most of the other items were parts of a very ambitious sound-camera which he hopes to complete in the not-too-far distant future. The soundhead is shown in the two accompanying photographs, from which its very businesslike appearance will be evident. The head is so constructed that no mechanical alteration has been required in the projector, the link consisting simply of a common baseboard. The original lower sprocket-wheel is used as drive, and the lower spool arm drops behind the head, engaging with a neat chain coupling to the new extended arm. This coupling can be seen on the lower right of Fig. 2. The two gauges are accommodated by the provision of inter-changeable scanning-drums. These are keyed to the shaft which carries a heavy flywheel on ball-bearings. The other alterations for change of gauge consist of rotating a small mirror assembly, and sliding the entire optical and exciter assembly laterally on a pair of precision guides. The two drums can be seen detached in the foreground of Fig. 2, beside the ring which carries the mirrors.

By invitation, Mr. Blair has very kindly prepared a set of photographs and a written description of his soundhead. These illustrate and explain the essential points extremely clearly, and may be borrowed in the usual fashion. (By application enclosing 4d. in stamps, and returning the notes within one week of receipt.) Mr. Blair entirely endorsed the view so often expressed in T.I.D., that a worth-while conversion means much hard thinking, and a great deal of patient and careful workmanship.

The original T.I.D. Note, mentioned above, began simply as a set of copies made by Mr. Blair of a reply sent to him by Mr. Roe. The Note has since been revised and expanded into its present form—"Elements of S.O.F. Recording"—and there appears to be a good chance that Mr. Roe will shortly be able to meet the requests of many readers by having it published in a limited edition for outright sale. The T.I.D. Board welcomes a new member—Lt. P. A. Downes, R.N.V.R.—whose speciality is the design of high-gain amplifiers. He has been interested in such work for many

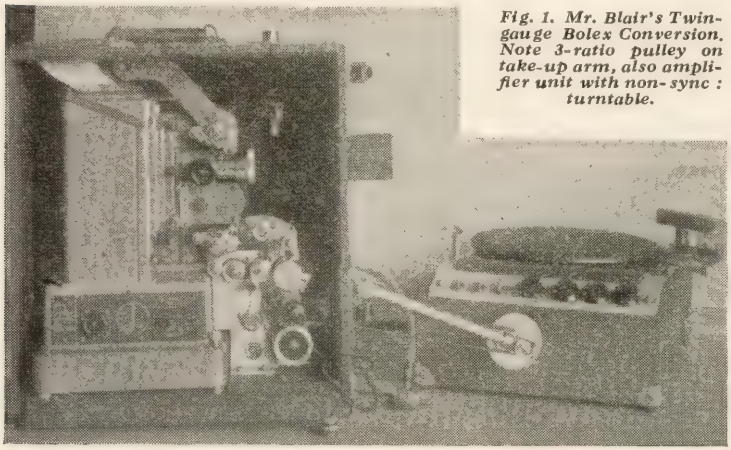


Fig. 1. Mr. Blair's Twin-gauge Bolex Conversion. Note 3-ratio pulley on take-up arm, also amplifier unit with non-sync : turntable.

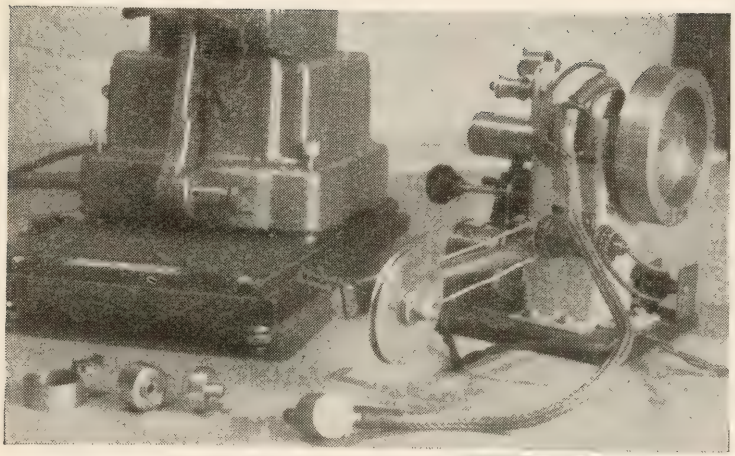
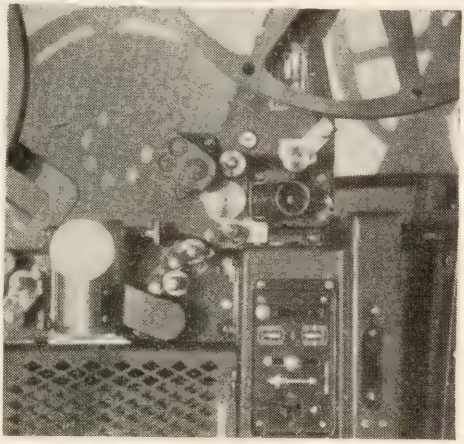


Fig. 2. The Soundhead removed from baseboard. Note chassis of heavy-gauge metal, and large flywheel.

Fig. 3. Siemens-Klangfilm Soundhead. Note apparent simplicity of design. Cap of exciter-housing removed to show lamp.



years, both professionally and privately. Our correspondence shows that amplifier design is one of the major worries of the soundfilm experimenter, and we hope that you will keep Lt. Downes busy answering really difficult questions! We are looking forward to presenting a series of articles by him on various aspects of amplifier design in the near future. Our more constant readers will perhaps excuse now a short reminder that T.I.D. exists for the purpose of dealing with readers' problems, requests and suggestions, and that we are particularly anxious to hear about your experiments and experiences. To deal with your questions, there is a little group of enthusiasts, known as the "T.I.D. Board," each of whom is very much at home in at least one field of sound-film technique. Philip Jenkins is the laboratory genius, as well as having other useful information to impart. Desmond Roe, D. W. Aldous and R. W. Lowden between them know practically everything about sound-recording—film, disc, wire or tape. S. F. Warner can bring into action a very full professional and amateur experience when confronted with problems of projection technique, and, as mentioned above, Lt. Downes can tame the wildest amplifier! So please don't hesitate to send us your questions—remember that there is no charge or formality other than enclosing a stamped addressed envelope for our reply.

The business on hand consists of a variety of short items. The question-and-answers are reproduced—with additions—from recent correspondence, the stroboscopic indicator is discussed by special request of several readers, and Mr. Aldous has produced two interesting items for us. The first of these is a photograph and description of the Siemens-Klangfilm soundhead, and the other an extract from the American Standards Specification for 16mm. Service projectors. This is reproduced later, with a few additional comments.

The Siemens-Klangfilm soundhead (Fig. 3) is believed to be one of the very few—if not the only—specimens to reach this country. Its owner—Mr. I. F. Glover—came into possession of it in an incomplete and damaged condition, but being a keen conversionist he was able to repair the outfit, which is now in full working order. Mr. Glover reports that the results are highly satisfactory, despite the "pull-through" type of drive. The very heavy and free-running flywheel on the scanning-drum seems able to cope with the inevitable unevenesses in the pull of the take-up. The head is SMPE-type, and the scanning-beam is directed into the cell—above and forward of the drum—by a reflector

of plastic material. The optical system is of the cylindrical-lens type, which makes for compactness, and is fitted with a large and accessible focussing-ring. (Presumably this can be used as a form of tone-control, similar to that provided on the Kodak sound projector where slight de-focussing reduces the treble. This form of control has the advantage that the operator can instantly assure himself that the scanning is correctly focussed for any type of film.) The exciter is a 6 volt 1 ampere type, and is fed by a rectifier. The film enters the head between two small idler rollers, which remove flutter from the intermittent, then round the scanning-drum which is, of course, of the rotary type. The film then passes up over another idler, then down under a lightly-spring-loaded jockey before entering the take-up spool. The entire head fixes in front of the projector with three bolts, tapped holes for which are provided on all the later Siemens models.

"Multiplier" Photocells

Q. ***I have just been reading in an American magazine about the wonders of the "Multiplier Phototube," and from the article I gathered that this instrument gives enormous outputs from very faint gleams of light. It seems like the ideal thing to use in a soundhead: can you tell me any more about it?***

A. The performance of the multiplier photocell is certainly impressive, since from a given illumination it can generate a current many thousand times greater than that given by an ordinary cell. Its value is principally realised in television and astronomy, where very minute quantities of light are encountered. It makes possible television cameras which can function in lighting too dim for any cine camera. Its action may be briefly described as taking the few electrons liberated by the light and directing and accelerating these—by an electrical potential—against a second sensitive surface ("dynode"). Here they land with such violence that other electrons are "splashed" out into space. More numerous than the original electrons, these are in turn directed to a third electrode. The process is repeated here, and so on to the ninth dynode, and finally the anode, or "collector." The multiplication at each impact depends mainly upon the voltages involved, and usually a total H.T. of about 1,000 volts is used. This is rather more than most of us would care to handle in our outfits. The cell is still essentially a laboratory instrument, and is rather too delicate for "everyday" use. For instance, it can be easily damaged by accidental exposure to bright light—such as ordinary room-lighting. Also, it demands a closely regulated power supply, controlled by a voltage-stabilising circuit.

A multiplier photocell could, at best, only replace the voltage-gain stages of the amplifier, not the output stage. It will be appreciated that to replace an ordinary cell and a couple of amplifying valves with a multiplier and one or two stabilising valves is no great saving in cost or materials. However, a lower background noise and a better high-note response are valuable advantages over the usual gasfilled cell, and there seems to be no reason why the multiplier could not be produced in a modified and more compact form for sound-film work. It would have to be more resistant to abuse, and require a more moderate H.T. supply, before the average user of substandard apparatus would welcome its adoption.

Incidentally, the same principles are equally applicable to amplifying valves, and from odd scraps of information which have come our way, it seems probable that we shall see interesting developments along these lines in the near future. Meantime, the familiar gasfilled-caesium cell is likely to maintain its supremacy in sound-film apparatus, as are "normal" amplifying and power valves, with their greater inherent stability of operation.

Amplifier Screening

Q. ***I have made the screening of my amplifer quite complete, as you recommended, but am still troubled with a persistent crackle from the motor of***

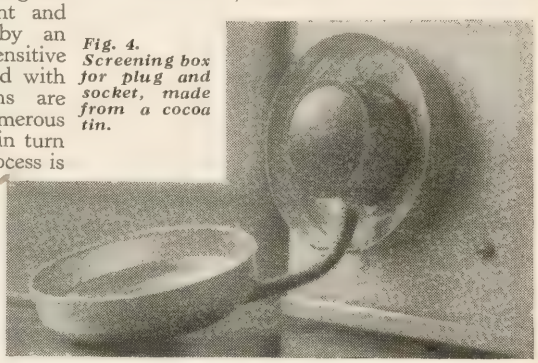


Fig. 4. Screening box for plug and socket, made from a cocoa tin.

"WESTMINSTER" for "EVERYTHING CINÉ"

current comprehensive stocks include the following . . . . .

PROJECTOR LAMPS

18v. 9w. Pathe Ace	5/9
18v. 9w. Pathe type "C"	7/1
50v. 25w. Dekko	8/-
30v. 100w. Prefocus for Specto, Zeiss, etc.	21/-
100v. 200w. A.S.C.C. for Kodascope "8," Agfa	29/8
110v. 300w. A.S.C.C. for Keystone "8"	46/4
100v. 300w. Prefocus for Kodascope	46/4
50v. 200w. Prefocus offset for Siemens, G.B., etc.	39/2
100w. Prefocus, 200v., 210v., 230v., 250v.	21/-
100v. 500w. 3-pin fitting for G.B.	60/-
100v. 250w. Prefocus, Bolex "C," "D"	37/5
100v. 200w. Prefocus	31/8
250w. Prefocus, 200v., 210v., 230v., 250v.	37/5
110v. 750w. Bell-Howell (large ring)	68/11
110v. 750w. Prefocus for Keystone, etc.	68/11
230v. 250w. E.S.	35/8
250v. 50w. for Craig Editor	11/6
6v. 8 c.p. S.B.D.C. Exciter	8/6
4v. 0.75 amp. Exciter for Filmosound	9/-

LANTERN LAMPS (64mm. bulb diameter)

100v. 500w. Prefocus (suits Aldis Epidiascope)	44/6
110v. 250w. E.S.	35/8
210v. 500w. E.S.	42/9
230v. 500w. Prefocus	44/6
500w., 200v., 210v., 230v., G.E.S.	44/6
110v. 200w. E.S.	30/5

TITLERS (Second Hand)

Bell-Howell Filmo Character Title writer	£8 8 0
Cinecraft Junior Titler	£1 10 0

REELS AND CANS

	Reel	Can
8mm. 200ft.	3/6	2/-
9.5mm. 400ft.	3/9	1/9
,, 800ft.	11/6	11/6
16mm. 400ft.	4/2	1/9
,, 800ft.	12/6	11/6
,, 1600ft.	25/-	25/-

PROJECTOR LENSES (Siemens fitting)

2" Meyer Kinon supeior	£8 5 0
2" f/1.8 Dallmeyer	£5 5 0
2" f/1.65 Dallmeyer	£6 17 6

Please allow adequately for postage (or carriage) and packing. Surplus will be refunded.
Kindly enclose stamped addressed envelope with enquiries by post.

CINE SCREENS. Cinepro De-Luxe (pre-war quality)

	Silver	Beaded	"Compact" Beaded
30 x 22	£1 5 6	£2 2 6	—
36 x 27	£1 7 6	£2 8 6	£4 12 6
40 x 30	£1 10 6	£3 1 6	£5 17 6
46 x 35	£2 1 6	£3 7 6	£6 15 0
60 x 45	£4 6 6	£5 18 6	£8 12 6
72 x 54	£5 13 6	£7 19 6	—
84 x 66	£7 12 6	£10 9 0	—
96 x 72	£9 13 0	£12 8 0	—

36 x 27 Westex "Witelite" (ideal for colour) £1 7 6

Also various second-hand screens. Write wants or call.

LANTERN SCREENS. Best quality opaque on rollers with cords and pulleys. Write wants or call.

9.5mm. FILMS

Various 60ft. comedies and cartoons, 12/8 per reel.

300ft. Super Reels — £3 7 4 per reel

- Churchill in Africa and Teheran
- Dunkirk
- News Review of 1943
- The Great Russian Offensive (3 reels)
- On to Rome (3 reels)
- Liberation of Stalingrad
- Commandos Raid Norway
- El Alamein to Tunis (3 reels)
- Conquest of Sicily (2 reels)
- The Invasion
- Paris Delivered

60ft. Reels — 12/8 per reel

- Big Three at Teheran
- Pearl Harbour
- The Flying Bomb
- Malta
- The Navy in Action
- The Second Great Fire of London
- Atlantic Wall
- Rocket Typhoons
- U-Boats
- Red Army in Action

GENERAL

16mm. 1,600 ft. Heavy duty geared rewinder	£6 18 6
Leather transport cases for 3 800ft. reels	£2 7 6
Pre-war canvas case for cine tripods	12 6
Cine Pan/Tilt Head, fine quality	£5 12 6

The WESTMINSTER

PHOTOGRAPHIC EXCHANGE LIMITED

• 111 OXFORD ST., W.1
GERrard 1432

• 24 CHARING CROSS RD., W.C.2
TEMple Bar 7165

• 119 VICTORIA ST., S.W.1
VICtoria 0669

• 81 STRAND, W.C.2
TEMple Bar 9773

VICTORY SALE!

Special clearance of stock on moving into new premises. All goods post free.

HMV portable gramophone **£5** ; Twin-speaker cases 18 x 18 x 12" **45/-** ; AC/DC amplifier fitted 6" speaker **£9** ; 15w. AC/DC P.A. amplifier new unused **£42** ; Talkie speaker 11" field 1,400 ohms. **£4** ; Leather Bolex case 12 x 8 x 8" **30/-** ; ply-leatherette amplifier case 17 x 8 x 8" **25/-** ; Baker Quality 12" speaker, new but cone damaged, only **£4** ; Lion Duplicator, f'cap as new **£16** ; Newsreels, 16mm. sound on 400' reel **£3** ; AC motor 400v. 3-phase ⅛h.p. **£5** ; another 110v. $\frac{1}{10}$h.p. AC/DC. **£4** ; Sewing-machine elec. motor attachment with foot control, new **£8**; Exciter transformers 200/250 in, 6v. 24w. out **37/6** ; All-purpose ditto, 2, 4, 6, 8, 10, 12v. out 8 amps. **59/6** ; Sync. motor 110v. **£8**, trans to suit 200/250v. 100w. **38/6** ; Optical systems **85/-, 87/6** and **£5** each ; Condenser lens 2½" **16/6** ; 1½" **8/6** ; ⅝" **7/6** pr. ; "Magnilens" enlarges picture 50% **10/6** ; Projector lens 1½", .56" mount **10/-** ; Concave mirror ¾" mounted **6/6** ; Sprockets 8-tooth sound plated 16mm. **19/-** ; ditto 9mm. **15/-** ; oxidised 16mm. **12/6** ; 9mm. **11/6** all ¼" bore ; Photocells all types, new **£5** ; 2nd grade **72/-** ; Exper: 16mm. soundhead **£20.**

BOOKS :— "Sound Conversion" **5/6** ; "Adapting 200B" **3/-** ; "Converting Kodascope" **3/6.** **BLUEPRINTS** :— Pathe "H" ; Specto ; Paillard "G" ; Bolex "DA" each **4/6,** or all four **15/-.**

PROJECTORS. All in good order and complete. Kodascope "A" 16mm. 250w. **£50** ; B-H. Filmo Vocational 16mm. 250/500w. **£60** ; Western Electric 16mm. **Sound-on-disc-and-film £250** (includes 6,000ft. films) ; Pathe 17mm. fitted 16mm. soundhead **£80** ; Pathe 200B fitted sound head 9mm. **£80** ; Super-vox with special head and amplifier **£150** ; Specto fitted 9mm. sound **£80** ; several others, list, stamped envelope.

Projector-Buyers London fare refunded ! No approvals but everything warranted as represented. Cash with Order only. If in hurry, wire cash to reserve. Refunded if sold. Our reputation your guarantee. £300 worth screens IN STOCK, List 2d.

CINELUXE LTD. *Pioneers of Amateur Sound Conversion. Late of Watford*

Please Note New Address :—
1725, LONDON ROAD, LEIGH-ON-SEA, ESSEX

the projector. You assured me that if the screening was made complete no interference could affect the sound—what can I do more to eliminate this nuisance?

A. Because a sound-film amplifier has a high degree of sensitivity, it is essential to prevent any but the desired signal from reaching the inputs to the first or second valves. This is usually achieved by placing these valves, and their associated components, inside a metal casing so that no external electrostatic fields can influence them. The photocell, as part of the first stage, must also be completely screened. You may not appreciate just how easy it is to spoil the efficiency and completeness of such screening. For instance, there must be an opening for the light to enter the cell. If this window is close to the cell, and more than about ¼" in diameter, it may allow the cell to pick up stray "signals." This can usually be demonstrated by bringing a finger close to the window, when a humming or howling sound will be heard from the speaker. If a large window is necessary, a useful dodge is to solder one or more fine wires across the opening, and these will act as a continuation of the screening, without noticeably interfering with the light beam.

(In passing, we are often asked how closely the casing may be made to fit around the cell without introducing capacity effects. The answer depends upon how the cell is connected. If its cathode is at earth potential —see *A.C.W.* for June '44—the casing may be in close contact with the glass of the cell. But if the cathode is "live," the metal should be at least ¼" clear of the glass—at any rate opposite the cathode.)

Again, if a jack or plug connector is used between the cell and amplifier, or between sections of the amplifier, this too must be screened completely. A jack-plug can be screened by making a metal jacket to enclose the grip, or by wrapping stout foil round it—the metal of course being connected to the braiding of the screened wire. Preferably, the plug should be of all-metal construction. Other types of plug are less easy to deal with, since the live pin is not enclosed within the earthy one—as in a jack-plug. With these, one method is to make a small box with detachable lid to enclose the plug, as shown in Fig. 4. A cocoa-tin cut down is very satisfactory, but it must be tinned, not lacquered.

Inside the amplifier housing proper, interference can also arise if the mains leads are too close to the early stages. Mains leads entering a chassis are equivalent to the aerial of a radio, and should be treated with

PENROSE (CINÉ) LTD.

69, STREATHAM HILL, LONDON, S.W.2.

Telephone & Telegrams TULSE HILL 6756 Before 10 a.m. or after 6 p.m. TULSE HILL 2063

Celebrating Victory with Bargains for All!

SOUND CONVERSION SUNDRIES

Vox Soundhead Assembly	£20	0	0
Vox Amplifier	£25	0	0
Vox Speaker	£5	0	0
Vox Super carrying case	£4	4	0
H.M.V. Talkie speaker (powerful)	£6	0	0
17.5 speaker in new case	£4	10	0
Auditorium speaker Baffle	£1	0	0
16mm. Soundhead for adaption complete new parts	£15	0	0
16mm. Soundhead parts, incomplete	£10	0	0
P.E.C.G.E.C. Bell Howell, etc., new	£5	0	0
P.E.C. for G.B. A or B. uncased, S/H.	£5	0	0
P.E.C. for G.B. L16, new	£8	10	0
P.E.C. for Marshall B. & H.	£5	5	0

Please note all films are exceptional bargains, buy while they are cheap.

9.5mm. SOUND FILMS

"A Corking Story," magazine film	£2	15	0
"Vanity Ware," magazine	£2	15	0
"A Train of Events," magazine	£2	15	0
"The Adventures of Popeye"	£3	0	0
"Hungarian Rhapsody," No. 2, new	£4	0	0
"Silver Blaze," 6 reels, new release	£23	0	0
"Land Without Music," 6 reels, new	£25	0	0
"She Shall Have Music," 6 reels, new	£25	0	0
"Across Europe Jack Hylton," 2, new	£9	0	0
"Taking the Blame," B. Boop	£3	5	0
"Sock-a-bye Baby," Popeye	£3	0	0

We have many others too numerous to list.

16mm. SOUND FILMS, SMASHING SUBJECTS. SPECIAL PURCHASE OF SOME OF THE FINEST FILMS YET OFFERED INCLUDING **UNUSUAL WAR PICTURES NONE OF WHICH CAN BE REPEATED.**

"Nazi Horror Film," 2 reels, 800ft.	£7	10	0
"Far East Front with Charlie McCarthy"	£8	0	0
"The Russian Front," 800ft.	£7	0	0
"Von Paulis Surrenders Stalingrad"	£7	0	0
"The Battle of Tunisia" (Smashing)	£7	0	0

Numerous others, 6 page list.

"Highlight of Variety"	£4	15	0
"Bell Howell Musichall"	£5	0	0
"Songs and Dances of Red Army" 800ft. (Lovely Film)	£8	15	0
"Extract from Flying Down to Rio"	£7	15	0
"Stars from the Screen," G.B.	£4	0	0
"The New Spain," Story of the revolt.	£9	15	0
"Aunt Sally," musical excerpt D.I.N.	£3	15	0
"G.B. Bumper Newsreel," 600ft.	£5	0	0
"Russian Drama," 7 reels	£12	0	0
"Comedies of Ralph Lynn, R. Hare"	£8	0	0
"Voyage of Discovery," 1 reel D.I.N.	£2	15	0
"Boys will be Boys & First a Girl"	£5	0	0

Big list of many others all very cheap.

LAMPS

500w. 110v. for G.B. L516	£3	0	6
500w. 110v. for Bell Howell	£3	1	8
750w. 110v. for Bell Howell	£3	1	8
400w. 110v. for Bell Howell	£2	16	6
400w. 110v. for Bolex D/A.	£2	16	6
300w. 110v. for S.P. talkie	£2	6	6
300w. 110v. for Ensign 300B	£2	6	3
100w. 30v. for Specto		19	8
250w. 55v. for Siemens 16	£1	19	2
100w. 110v. E.S. screw cap		19	1
200w. 115v. for 200 B Pathe	£2	2	6
19v. 1 amp type D for Pathe		8	11
18v. ½ amp type C for Pathe		7	1
18v. 9w. for Pathe Ace		5	9
20v. 50w. for Triplico		12	6

Quantity of Lantern and Spot lamps.

REGRET WE HAVE NO LAMPS FOR VOX, PATHE H., CORONET, DEKKO.

9.5mm. SILENT FILMS

S.B. "The Dieppe Raid"	£3	0	0
S.B. "Great Russian Offensive," in 3 reels, extra fine film	£7	10	0
S.B. "Dunkirk"	£2	15	0
S.B. "Teheran Meeting" Churchill	£2	18	0
S.B. "Algiers to Casablanca"	£2	0	0
S.B. "Modern Flying"	£2	0	0
S.B. "The last Adventurers" (4)	£8	0	0
S.B. "Billy the Sea Dog" Comedy, New	£3	0	0
M. "Making Stars" B. Boop	£1	15	0
M. "Aircraft Carrier X," S/S.	£1	15	0
M. "Mickey Robot"	£1	10	0

60ft's. include "Flying Bomb," "Parachute Jumping," "Malta gets the George Cross," all 12/8 each

PROJECTORS AND CAMERAS

AVAILABLE AT TIME OF GOING TO PRESS EITHER OUR RECONDITIONED MACHINES OR LEFT FOR SALE OR EXCHANGE BY CLIENTS

S.P. 16mm. **Wundertone** special model, S.M.P.E., 1,600ft. 8/10w. output, just like new £155 0 0

S.P. 16mm. **Wundertone** standard model rebuilt new parts £125 0 0

Pathe 17.5 Talkie amplifier needs attention £55 0 0

Pathe 9.5 S. motor out of order, otherwise O.K. £35 0 0

Pathe 9.5 **Lux,** the de-luxe model, just like new, list £30 0 0

Kodak 16mm. **E.** AC/DC model, only used once £50 0 0

Kodak 8mm. 200w. light, unused £20 0 0

Dekko 9.5 f/1.9 all metal de-luxe camera, with extras £19 0 0

EXCHANGES PREFERRED

Please send stamped addressed envelope for reply or Film List. State size you require.

suspicion. The mains transformer should have screening between primary and secondary. One of the commonest mistakes is the use of a combined volume-control and mains on-off switch. The volume control is usually placed early in the circuit, and is ideally situated to convey interference from the mains leads to the input. If the screening of the amplifier is really complete, and not broken by such errors as described above, then the only remaining possibility is that the projector-motor is situated immediately above an intervalve transformer, or other inductive component. Normal electrostatic screening is powerless against such interference, and removal of the component concerned to a more distant part of the amplifier is the simplest remedy. (Altering the circuit to eliminate inductive components is a more positive cure, but rather a drastic one.)

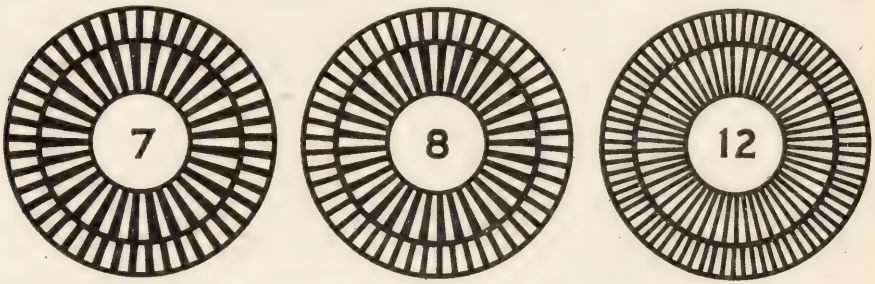


Fig. 5. Stroboscopic Indicator Discs for the three common substandard sprocket-wheel sizes. INNER ring indicates SOUND speed, Outer, silent.

STROBOSCOPIC INDICATORS

There are quite a few conversionists and other experimenters who favour the use of a variable-speed motor, in preference to the induction type with its virtually constant speed. Where D.C. mains are likely to be encountered, or one wishes for any other reason to retain the original universal-type motor, some form of control is required for the running of sound-films. Probably the most satisfactory arrangement is a centrifugal-electric governor, such as that described in detail in *A.C.W.* for March, '43. With this device any speed below 24 frames per second may be selected by means of the original resistance control, while an accurately maintained speed of 24 f.p.s. is obtained by turning the control to "full speed." There are cases, however, where the extra complication of an electrical governor is undesirable, and here the simplest form of regulation is provided by a stroboscopic indicator. With this, the speed constancy depends upon the vigilance of the operator, and the stability of the motor.

The indicator consists of a disc or drum attached to any convenient shaft in the projector, and marked with a number of spokes or bands. When this is illuminated by a low-power lamp, run off A.C. mains, the stripes appear to stand still when the correct speed is reached. This is due to the fact that the light from such a lamp—neon type for preference—is not of constant intensity, but varies with each current wave in the supply. With 50-cycle mains, there are 100 such "pulses" of light per second, and the disc will appear to be stationary when each stripe moves forward into the position occupied by its predecessor in 1/100th of a second. The sharpness of the stationary image depends upon the contrast between maximum and minimum illumination, which is greatest with a low-wattage metal-filament or neon lamp.

The number of stripes required is quite simply calculated for any set of circumstances. For instance, at 24 frames per second, and with a 50-cycle mains (100 pulses per second), each frame is equivalent to 100 divided by 24, or four and one sixth pulses. If the disc is fixed to the same shaft as a 12-tooth sprocket-wheel, then the number of stripes required will be $12 \times 4\frac{1}{6} = 50$. These may be either light on a dark background, or vice versa, so that there will be 100 *segments* altogether—50 light, 50 dark. Figures for other film-speeds, mains frequencies and sprocket-sizes may be similarly calculated as required. However, the great majority of cases in substandard practice involve a 50-cycle mains and sprocket-wheels of either 7, 8 or 12 teeth. In Fig. 5 suitable discs for sound and silent speed for these three sizes are given. The discs may be cut out, mounted on card or thin metal, and affixed either directly to a sprocket-wheel or to its shaft. (Any reader who requires a larger—or smaller—disc, and who has facilities for enlarging, is welcome to borrow a negative for a few days from the Secretary. This

RON HARRIS 16 mm. Sound Film Library

The Proof of the Pudding!

A few comments from clients:

From a Literary and Scientific Society : "I should like to say how pleased we have been with the programmes that you have provided us with. The high quality of the prints has been greatly appreciated by our members and I have no hesitation in saying that if you are able to continue to distribute films of this standard, a new high level in Library films will have been established. You may rest assured that if we continue with our shows during the next season we shall obtain our films from your Library."

From a Headmaster : "Captain Fury—returned herewith. I should like to take this opportunity to inform you that the sound on this film is the finest I have ever heard on 16mm. stock. It really is a grand film."

From an Army Unit : "Topper Returns"—an excellent film, technically and pictorially; thoroughly enjoyed by an audience of 500. Recording surpasses anything previously shown. 16mm. Marches On."

From an Entertainments Committee : "Once again you supplied us with a most excellent programme which was thoroughly enjoyed by over 300 wounded men and returned prisoners of war."

Show "Big Time" Hollywood Movies. *Magnificently directed, lavishly staged and produced, featuring top ranking stars and unsurpassed by any pictures available in 16 mm.*

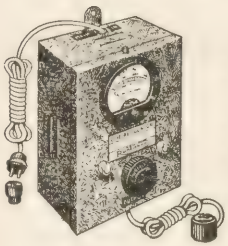
★ **CAPTAIN FURY**—with Brian Aherne, Victor McLaglen, John Carradine.
★ **TOPPER RETURNS**—with Roland Young, Joan Blondell, Carole Landis.
★ **OF MICE AND MEN**—with Burgess Meredith, Lon Chaney, Jnr., Betty Field.
★ **THE HOUSEKEEPER'S DAUGHTER**—with Joan Bennett, Adolphe Menjou, Victor Mature.
★ **TURNABOUT**—with Carole Landis, Adolphe Menjou, John Hubbard.
★ **THERE GOES MY HEART**—with Fredric March, Virginia Bruce, Patsy Kelly.
★ **TOPPER TAKES A TRIP**—with Constance Bennett, Roland Young, Billie Burke.
★ **ONE MILLION B.C.**—with Victor Mature, Carole Landis, Lon Chaney, Jnr.
★ **BROADWAY LIMITED**—with Victor McLaglen, Dennis O'Keefe, Marjorie Woodworth.
★ **CAPTAIN CAUTION**—with Victor Mature, Leo Carillo, Bruce Cabot.
★ **SAPS AT SEA**—with Stan Laurel and Oliver Hardy.

Hundreds of other titles available. Catalogue price 6d.

RON HARRIS 16 mm. SOUND FILM LIBRARY
63-65, KING ST., MAIDENHEAD

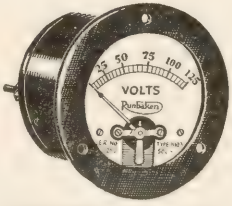
Runbaken

VOLTAGE REGULATOR



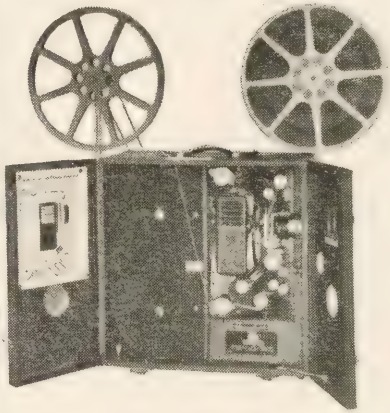
The Runbaken Voltage Regulator is essential equipment to every Portable Projector. By careful adjustment the life of projector lamps can be increased two or three times. A.C., D.C., 100-110 or 200-250 instantly attached Simple and efficient.

CINEMETER



100/115 Volts A.C., D.C. and 200-250 Volts A.C., D.C. This easily fitted Voltmeter shows exact mains voltage A.C. or D.C. Greatly increases life of Projector Lamp by avoiding over-running.

CONVERSION SET for G.B. A. and B Models



This Runbaken "Quikfit" Set brings equipment up-to-date. Converts G.B. Models "A" and "B" to take 1,600 feet reels.
Write for full details.
Trade Enquiries Invited

Runbaken
MANCHESTER·1

may be an easier course than plotting one's own disc with compasses and protractor!)

Strictly speaking, the "7" and "8" discs do not indicate exactly 24 f.p.s., since this cannot be represented by a whole number of stripes. However, the error is quite small—about 0.6% fast for 7, and about 1% fast for 8. If greater accuracy is required, the projector speed can be adjusted so that the disc appears to revolve slowly backwards—at about one per minute and twice per minute respectively. (It takes a pretty delicate touch, and a very well regulated motor, to maintain such close accuracy.)

An even simpler form of stroboscopic indicator consists of a single cross on a disc fitted to any shaft which rotates once per frame. This cross would appear to be stationary at 25 f.p.s., while 24 f.p.s. is indicated by the cross appearing to rotate backwards once per second.

16mm. PROJECTOR STANDARDS

The following passages are extracted from the American Standards Specifications for 16mm. Service Projectors, a document which contains many items of interest, but which at the time of writing does not appear to be available in full in this country.*The specifications are in some cases extremely stringent, and reflect a handling which no amateur is likely to accord his own precious projector. However, in most cases the requirements are essentially "reasonable," but even so, they represent, in the words of one American writer, "an operating performance which surpasses any 16mm. projector at present on the market." Here are the main items from Mr. Aldous' extract :—

"Projector intended for audiences up to 500. Must accommodate 750 or 1000 watt prefocus lamp, or arc. Equipment should operate on any voltage from 105 to 125, at 50 or 60 cycles/sec. A.C. The A.C. motor should be interchangeable with a D.C. motor. Requirements necessary to avoid film damage: Projector must run newly-processed film 1000 times without visible or audible damage. For this test a 12ft. loop is to be used, run with a 750 watt lamp burning. (*This is certainly a searching test. It means running the short loop continuously for five and a half hours!*) The projector must be capable of feeding the film with two adjacent damaged perforations, and the picture or sound area of the film must not touch any stationary part of the mechanism. It must take any size of reel from 400

*As we go to press we hear that Mr. R. H. Cricks, Secretary of The British Kinematograph Society, has compiled a list of all the relevant specifications, and that the British Standards Institute have a complete set in their offices at 28, Victoria Street, London, S.W.1.

When the dawn of Victory broadens into the full light of Peace the war-time achievements of British Science and Craftsmanship will be devoted to the needs of the individual

PATIENCE WILL BE REWARDED BY THE SUPREME QUALITY OF POST-WAR LENSES BY

ROSS

ROSS LONDON ROSS LTD., The Optical Works, Clapham Common, London, S.W.4

HAVE YOU SEEN THIS ONE?

That question arises in regard to each of the Films in our

FILM LIBRARY

which comprises a selection of well over 1,000 subjects many of which run into several reels.

NONE LARGER OR BETTER
Complete List Post Free

Our Library, composed of 16mm., 9.5mm., 8mm. Silent Films, covers every field. All films are in excellent condition and the Library is kept up-to-date. Non-members, therefore, are depriving themselves of a source of entertainment, interest and education, which cannot be got elsewhere. Membership is the open sesame to this veritable galaxy, so

SEND FOR LIST AND TERMS

The Classification embraces :—
DRAMA, COMEDY, CARTOONS

Full length and short length. Western and other Dramas. Chaplin, Our Gang, Laurel and Hardy, Juvenile Comedy, etc. They're a scream.

DOCUMENTARY,

Travel, Geographical, Popular Science, Agricultural, Nature, Sport, History, etc. You simply should see "Arctic Hike on Aletsch Glacier," "Lenses," "Weather Forecasting," "Formation of Soil," "Behaviour of Light," "Spiders," "Shark Fishing" and the hundreds of other astounding films in this section.

Make this field of untouched interest your own.

WRITE FOR

FULL PARTICULARS

Stating make, Model No. (if possible) of your Projector, also whether 16mm., 9.5mm. or 8mm.

And send us also your enquiries for

ACCESSORIES, REPAIRS

We carry large stocks of lamps, Reels and Cans, Screens of all sizes, etc. We also undertake repairs to both Talkie and Silent Projectors, giving good delivery service.

R. W. PROFFITT LTD.

49-51, KNOWSLEY STREET, BOLTON

'Phone : BOLTON 4422.

to 2,000 feet. The "take-off" tension must not exceed 3ozs., and the take-up tension must be between 2 and 5ozs. (*This may sound like trying to make things difficult, but it is a fact that the take-up tension of sub-standard projectors is woefully variable. Many provide only one tension, supposed to handle all sizes of spool. This means that either the tension will be excessive at the beginning of a 400ft. spool, with consequent risk of damage to the perforations at the hold-back sprocket-wheel, or that the tension will be insufficient with a nearly-full 1,600 footer. In the latter case the film tends to wind unevenly, and may become so unbalanced as to be too much for the take-up. The spool stops, and it may be some minutes before the operator notices the film piling up on the floor.*) The light output with the 750 watt, 25 hour lamp should not be less than 175 lumens, and 385 lumens from the 1,000 watt, 10 hour lamp. The condenser must be adjustable to suit long-focus lenses.

"With a 10ft. wide picture, vertical unsteadiness with a new machine must be less than $\frac{1}{4}$", and with a machine which has run for 1,500 hours, not more than $\frac{3}{8}$". Horizontal unsteadiness must not exceed $\frac{1}{4}$". No 'travel ghost' must be visible. The racking (*framing*) device must be such that the picture does not shift on the screen. (*This is a point which ought to be demanded on all but the cheapest projectors. Without 'optical framing' it is impossible to keep the picture on a bordered screen when the usual variations in printing are met.*) Power-driven rewind is essential. Electrical interlock should be provided so that the lamp cannot be turned on before the motor is switched on. Single-point lubrication is desirable : alternatively, self-oiling bearings.

"Projector speed must not vary by more than 0.75% from the standard speed of 24 f.p.s. This is equivalent to a pitch difference of about $\frac{1}{8}$ of a semitone. The scanning beam must be capable of being focussed on either surface of the film, to allow for the emulsion being on either side. (*This also may seem like an unnecessary refinement until one remembers that in some colour-film systems it is impossible to print the track on the 'lens' side of the film. The additional advantages of a focussing control have already been referred to in a previous item.*)

"The amplifier must have a 12-watt output. Bass and treble controls are required, the treble producing a 'hump' in the frequency response at 3,000 cycles. This is useful for reproducing poor track, without introducing excessive ground noise. The bass control must be designed to compensate for excessive reverberation (*see last issue of A.C.W.*).

The loudspeaker must be of the permanent-magnet type, and handle 16 watts. (*Presumably the point of eliminating the popular energised field is to make the loudspeaker cable simpler and less prone to accidental wrong connection. Also it would allow a freer interchange of loudspeakers to suit different conditions. This is in contrast to some outfits where not only is the field used for H.T. smoothing, but also the condensers are built into the L.S. case.*)

"The optical excellence of both the projection and sound-scanning system is to be tested by means of special patterns and recordings. (*For example, for testing the uniformity of the scanning-beam, a special track, only 5 mils. wide, travels slowly across the space occupied by a normal track. Any variation in the sound output indicates a defective scan.*) The frequency response is to be checked with tracks ranging from 50 to 7,000 c/s., and the flutter is to be checked at 3,000 c/s. by means of a special indicator."

There are several other tests, mostly for mechanical robustness, such as :— "The complete equipment, packed for carrying, must be dropped 10 times from a height of 18" on to a concrete floor. Finally, a stream of water must be played on the carrying case for 5 minutes, and the case examined for entry of water."

Readers will surely agree that apparatus which can come through such tests as these must indeed be above the usual standards of design and finish!

We regret that Mr. H. A. V. Bulleid's feature, Famous Library Films, in which he had dealt with "The Spy," has been unavoidably held over. It will, however, appear in an early issue.

FILM HIRE (Liverpool) LIMITED
DISTRICT BANK BUILDINGS,
CHARING CROSS, BIRKENHEAD
'Phone 2908
FILMS PRODUCED
TECHNICAL
EDUCATIONAL etc.
All films except Technicolor 5/- per reel
16mm. SOUND FILM LIBRARY
SHOWS ARRANGED ANYWHERE
Projectors Serviced and Repaired on the Premises
Catalogue 6d.

FILM HIRE LIBRARY
16mm. & 9.5mm—Silent & Sound
Latest releases and Attractive Hire Rates.
FRANK E. JESSOP *The Leicester Dealer*
4, OXFORD STREET, LEICESTER

IT IS VERY HARD TO CALL YOUR ATTENTION TO A SERVICE WHICH IS NOTHING OUT OF THE ORDINARY, NOT CHEAPER THAN THE NEXT MAN & PERHAPS NO BETTER. WHAT CAN I SAY EXCEPT THAT I SELL AND EXCHANGE GOOD 16MM. SOUND FILM FROM MY PRIVATE THEATRE AND THAT DISSATISFIED CUSTOMERS ARE VERY FEW.

CLIVE PATMORE, F.I.O.,
5, BROOKVIEW ROAD, S.W.16
Streatham 7448

16 m/m FILM LABORATORIES
NEGATIVE DEVELOPING
PRINTING AND TITLING
SERVICE
J. SCOTT-RUSSELL,
Cinematographic Film Laboratories
7, Great Castle St., Oxford Circus, London - - - W.1.
Telephone : LANgham 4382. *Estd. 1912*

Your Problem Solved

Processing Gevaert 9.5mm. Films

Q. *Can you tell me how to develop Gevaert reversal film as a negative? I have tried developing as for ordinary negative film, but this only turns the film black. I have been told that it is possible to process ordinary reversal film as a negative.*—J.T.

A. We fear you are extremely unlikely to be able to process Gevaert reversal film as a negative. This is due to the fact that the film has a black backing which is designed to remain in being until after the development of the first image. Then, when this image is being bleached by the Potassium Bichromate bleach which is specified for use with Gevaert Reversal film, the backing is also destroyed. In the absence of this bleaching operation it is extremely difficult to remove the backing.

Reversal film which is free from such special backing can easily be processed as a negative by developing and fixing in the normal way, using a fine grain developer formula, e.g., M.Q.-Borax.

Lighting Effects

Q. *Can you suggest where I can get coloured gelatine for use in front of photofloods for lighting effects?*—E.R.

A. Your local photographic dealers should be able to obtain these coloured gelatines for you—and in these difficult times photographic dealers are glad of all the trade they can get, in view of the heavy restrictions in photographic materials proper. A possible source of supply is Cinema Traders, Ltd., 26, Church Street, London, W.1; Cine Requirements, 203, Shaftesbury Avenue, W.C.2, and Cinema Circuit Supplies, 145, Wardour Street, W.1.

Markings on 9.5mm. Film

H.S.C.—The images of the sprocket hole in the centre of the sample strip submitted are due to light fogging. They are unlikely to have occurred in the camera, as they are at uneven distances from the actual sprocket holes. It is most likely that they happened either when the film was in coil form, or more possibly during the processing operation. Such markings happen when film is processed on a frame, and there is partial obscuration of one winding by another in the presence of partially unsafe darkroom lighting. In this case the fogging, however caused, occurred prior to the operation of the reversal bath.

In the absence of further information it is not possible to make a more specific diagnosis, and while we state above that the trouble is unlikely to have occurred in the camera, the possibility of internal reflection to parts of the film away from the gate cannot entirely be ruled out.

"Ghost" on 9.5mm. Projection with 200B.

Q. *I am experiencing "ghost" effect with my 200B. It persists until about half way through the film, although I can get a perfectly clear picture immediately by slight finger pressure on the back of the presser pad. How can a cure be effected?*—J.A.

A. The ghost effect may be due to a number of causes. It would have assisted us in making a diagnosis had you informed us whether the ghost extension of the image was above or below the main image.

The probable causes in this case are (a) that the shutter is loose on its spindle, so that the effect appears intermittently, (b) that the pressure on the gate is insufficient, (c) that the pull on the take-up clutch spring is too great.

We suggest you consult a competent cinematograph dealer in Stockport, who will assist in diagnosing the trouble, and who will also be in touch with a trade repairer who can deal with the problem. It would be unwise for us at this stage to suggest a "solution" to a problem about which we are insufficiently informed.

Jerky Projection of 9.5mm. Film

L/Sgt. L.S.H.—In the absence of an actual sample of your film it is difficult to indicate specifically the possible cause of your trouble. If the unevenness of picture has been caused in the camera this can most easily be detected by comparing the position of the frame line with the central perforations in the film.

If, on the other hand, films at first project smoothly and then develop jerkiness, this may be due to either one or two causes. If the film dries out during storage it may also shrink, and will also develop lateral curvature. All these things may cause the pull-down claws not to engage properly, so that successive frames are pulled down slightly differing distances.

If the film is stored under conditions which tend to make it become moist, the emulsion itself will become slightly tacky and tend to stick to the surface of the gate mask or presser plate, and will cause jerking due to increased resistance. Carefully clean the gate with a piece of wood or a copper scraper (never a steel one), and you can even wipe it with a very slightly oily rag. Never leave a perceptible film of oil on the gate. Professional films are waxed along the edges to secure the same result.

Use a proprietary "humidifying" solution in your storage cans.

Protecting Stationary Film from Heat

Q. *Can you tell me a way of stopping the heat from damaging the film when it is stationary in the gate? Is there anything which will pass the light but stop the heat? I do not want to get a smaller wattage lamp than* 500*w.*—S.W.

A. The usual method of protecting films from blistering when held stationary in the gate is to use a special shutter.

For medium powered projectors fine wire gauze is used, while, for greater power, special heat-resisting glass with a gold or copper content is more usual. The leading glass makers, such as Chance Brothers, manufacture this glass, but it is doubtful whether they would be willing to make a direct retail sale to an individual. No doubt your local photographic dealer can assist you in obtaining a piece.

It is usual to mount the safety shutter in some form of balance holder connected with the normal transit mechanism in such manner that when the projector is at rest the shutter swings into position, but as soon as the projector starts it is thrown out of the path of the light rays. This is generally accomplished by means of a simple form of centrifugal governor.

For example, if the shutter is connected to a shallow drum supported on a spindle, and the spindle has rigidly fitted to it small links which fly outwards when the spindle rotates, the friction between the links and the side of the drum will cause it also to rotate.

A small stop must be provided to prevent the shutter being turned aside too far, and so that it will drop back into position as soon as the spindle stops revolving. In some cases it may be necessary to provide a return spring.

Angle of Cover of Lens

Q. *Can you give me a formula for calculating the field of view of any lens, when negative size, focal length and distance of lens from subject are known.*—J.E.D.

A. None of the text books gives a formula which will take care of all the variations of angular cover, taking into account differences in projection of the lens coincident with differences in the distance focussed upon.

For all practical purposes the best method is a pictorial one, and the cover of a lens at infinity will give a close enough indication of its cover under all conditions for cinematography, where the projection of the lens, even for short focussing distances, is relatively small.

To find the cover at infinity, draw a diagram showing, in enlarged form, a base line representing the dimension of the large side of the negative, with a perpendicular at its centre representing the focal length of the lens. Joining the extremity of the perpendicular to the opposite ends of the base by means of two lines and extending these lines, gives the angle of cover, from which can be measured in a proportional manner, the field of cover at varying distances.

The shorter dimension of the negative can be marked on the same baseline in a central position, and two further lines drawn and extended to indicate the other dimension of the field covered.

If desired, the operator can measure the forward extension of the lens when focussing on short distances, as compared with the projection of the lens when focussed at infinity, and draw modified diagrams to cover this state of affairs.

The dimensions of an 8mm. frame are approximately 4.5mm. x 3.5mm., but it must not be forgotten that projector masks are slightly less than this in size, and vary to a small extent with the make of projector.

Effects Boxes

E.H.—Briefly, the effects box is a cone-shaped hood, the narrow end of which fits over the lens with the outer and larger head facing away from the camera, is rectangular in shape, and is used as a support for various shapes of mask which are used for securing effects on the film. Such a box can only be used with true effect on a camera which can be wound backwards so that more than one exposure can be imprinted on any given section of film.

The simple principle underlying the use of an effects box is that if a mask or filter is placed very close to the lens it will be so badly out of focus that it will not register its shape or effect on the negative in any positive manner. If the mask is made larger and taken farther away from the lens, it will be more nearly in focus, and its edge more sharply defined. All that then remains is to join the mask to the lens with some sort of hood or shroud to keep out extraneous light.

As the mask box tends to be about as big as the camera with which it is used, it is customary to build it on to a long base-board which is screwed to the tripod, and the camera itself is screwed down to the base-board, but that is a matter of individual taste in design.

A useful fitting is a very large iris diaphragm (a dealer will probably have one among his odds and ends, even in these days), which can be mounted over the front end of the hood, and used for irising shots in and out. If the centre of the diaphragm can be fixed at any chosen point over the front face of the hood it will enable the iris in and out to be accomplished in any chosen part of the picture.

FILM LIBRARIES

We offer a most comprehensive service to projector owners. Entertainment Officers, Club Leaders, Youth Organisers, etc., will find that the selection of films from our libraries will meet every need. A selection of over 5,000 films at your service.

● **16mm. SOUND and SILENT FILM LIBRARIES** ●

● **9.5mm. SOUND and SILENT FILM LIBRARIES** ●

● **8mm. SILENT FILM LIBRARY**

Illustrated literature of any library 1/- post free. Please state make, model and (if possible) serial number of the projector(s).

Other Services include:

FILM SALES. Every 9.5mm. sound and silent film released to date available from stock. New Silent Films:—30ft. **6/9**, 60ft. **12/7½**, 200ft. ("M") **£2 2 1**, 300ft. ("S.B.") **£3 7 4.**

Good Condition USED FILMS:—30ft. **4/-**, 60ft. **8/-**, 200ft. **32/6**, 300ft. **£2 10 0.** No lists issued, select from catalogue.

NEW 9.5mm. SOUND FILMS £4 12 4 per reel. Used **£3 15 0** per reel.

PART EXCHANGE. BIG ALLOWANCE for 9.5mm. sound or silent films in part exchange. Films must be in good condition and complete. All films supplied by us are returnable in part exchange at any time. Guaranteed maximum allowance if returned in same condition.

8mm. FILMS EXCHANGED. List of 50ft. films available for exchange submitted against stamp.

8mm. FILMS PURCHASED. We are in position to pay the highest price for 8mm. films in really good condition. Maximum retail price paid for 8mm. coloured cartoons. Send films along with price required. Cash or offer by return. (Please do not waste time and postage by sending damaged or incomplete films.) Any films not approved returned post paid.

16mm. TITLES. 1 to 8 words **2/-**, 9 to 18 words **2/6.** Travelling titles (for extra long titles). Ordinary rate plus 6d. for each additional 10 words. No extra charge for fades and mixes. (*Note.*—Delivery usually six to eight weeks. Regret cannot undertake to complete orders in any specified period.)

TITLE LETTERS and CARDS (Backgrounds). List for stamp. Special offer of parcels of letters and background at **10/-** and **20/-** per parcel. Each parcel contains selection of paper card and felt letters (complete founts) with suitable backgrounds.

16mm. FILM FOR TITLING. 25ft. lengths 16mm. negative ortho film suitable for titling. **6/3** per 25ft. roll. Any quantity supplied.

FOR SALE. Complete outfit consisting of Pathescope Super VOX Projector. Two spare lamps. Set of spare valves. Pathescope de-luxe Motocamera, f/2.5 lens with telephoto attachment. Small splicer. Other useful items including 3in. projection lens. Price for complete outfit **£275** cash, or part exchange if desired.

KIRKHAM
(SUB-STANDARD)
FILM SERVICE
111-117, Winwick Road, Warrington
Telephone 245. - - *Telegrams: Cinesound*

A number of shaped masks can be prepared from cards, and complementary masks will be useful for double exposure. For example, if you cut a big "keyhole" mask, the centre piece which you cut out can be mounted on a piece of glass, so that after you have taken the keyhole exposure through the "female" mask you can wind back, place the "male" mask in position and surround your central image with anything you desire.

Centring of Optical Equipment in Projector

Q. *The results I am obtaining from my Pathescope "H" projector are not quite as sharp as they might be. With the projector running, but with no film, and properly focussed, I obtain a fully illumined screen; but if I turn the lens in a forward direction, the illumined area shifts to the left. Does this point to some maladjustment in the axial plane of the reflector—lamp—condenser—gate—lens system, and, if so, how can I test for this and how correct it?*—J.R.H.

A. It appears that there is some maladjustment of the optical axes of the various components of your projector. If, upon rotating the lens, the image of the projected picture aperture also describes a circle on the screen, then the projection lens itself is not correctly centred, and there is little that you can do about it.

If, however, the image remains displaced in one direction, then the mask and film gate may be displaced relative to the condenser reflector system.

In neither case, however, need this have an adverse effect on definition. To clarify the situation, imagine that you had a central aperture in your gate, but that it was possible to move this laterally to some extent.

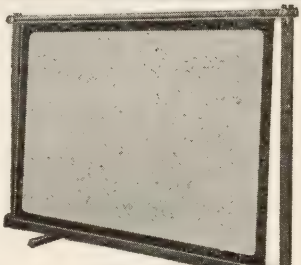
You are not altering anything else except the shape and position of the aperture through which light is about to pass, and no change should be apparent until you have moved the mask so much to one side as to be outside the normal angle of cover of the lens. Even then, only part of the picture will be slightly degraded.

On the other hand, lateral displacement of the lighting optics relative to the axis of the projection lens will immediately become apparent by giving uneven light distribution on the screen. Adjustments are provided for moving lamp and reflector to overcome this.

Cartoon Work and Microscopy

R.B.—While we appreciate your enterprise in attempting to design and make a projector, it is obvious from your letter that you have not studied the fundamental requirements of design, and we feel that you would be wasting your time attempting to manufacture a machine without at least some basis of such knowledge.

RAYBRITE Screens



A FINE SCREEN AT A LOW PRICE
Ideal for the Cine enthusiast of modest means. Extremely simple to erect and is then rigid and taut. Rolls up into a very small space. In popular sizes, Crystal Glass Beaded or Silver. From **17/6.** Send 2½d. stamp for particulars to the manufacturers :

R.F. HUNTER LTD.

of Celfix House, Gray's Inn Road, London
War Time Address:
The Manor House, Leighton Buzzard, Beds.
Telephone: Leighton Buzzard 3188

1,600ft.

CONVERSION SETS

for G.B. Models "A" and "B" complete with 1600ft. reel

Last Few to be Cleared at

£8 : 17 : 6

CASH WITH ORDER or C.O.D.

Only a few left.

Cannot Repeat at This Price.

As Sold Last Season at

£11 : 15 : 0

Satisfaction Guaranteed.

N. N. GRIFFITHS

150, London Road
Manchester 1

Telephone - ARDwick 4308

R. G. LEWIS LTD.

for ALL your Cine needs

We offer below a selection from our large stock of Cine Sundries. Should you not find your requirements in this list, do not hesitate to write us as restrictions of advertising space prevent the inclusion of many items. Your inquiry will receive prompt attention.
We are still offering attractive prices for high class Cine cameras, Silent and Sound projectors, Tele lenses and accessories.

REELS AND CANS
9.5mm. reels, 400′ **5/6** ea. 9.5mm. Cans, 400′ **1/9** ea. 9.5mm. Reels, 800′ **11/6** ea. 9.5mm. Cans, 800′ **11/6** ea. 8mm. Reels, 200′ **3/6** ea. 8mm. Cans 200′ **3/-** ea. 16mm. reels 1,600′ **£1 2 6** ea. 16mm. Cans, 1,600′ **£1 2 6** ea. 16mm. 800′ Reels **11/6** ea. 16mm. 400′ Cans **1/9** ea.

PROJECTION LAMPS
110v. 200w. Pathe 200B lamp **35/9.** 30v. 100w. Specto lamp **21/-.** 110v. 300w. Kodascope E. & E.E. **£2 6 4.** 110v. 400w. Bolex D.A. **£3 2 4.** 500v. 200w. G.B. Talkie A & B. **£1 19 2.** 18v. Type C for Pathe Home Projector **5/11.** 100v. 200w Ascc. for Kodascope 8, Movector, etc. **£1 9 10** 115v. 100w. for Kodascope C, etc. **£1 0 11.**

GEARED REWINDER
1,600ft. 16mm. rewinder, geared, sturdy construction, well finished, price **£6 6 0** *P. and P.* **2/6.**

SELECTIONS FROM OUR STOCK OF 9.5mm. S.B. FILMS

SB.30471 Dunkirk
SB.30466 Parts 1 and 2 Conquest of Sicily
SB.30465 Churchill in Africa and Teheran
SB.30469 Commandos Raid Norway
SB.30460 Liberation of Stalingrad
SB.30201 Death Drives Through. 3 reels
SB.30320 No Limit. 3 reels
SB.30429 Turn of the Tide. 4 reels
SB.30452 Northern Frontier. 3 reels
SB.30076 White Flame. 3 reels
SB.30074 Ape-y-Days. 2 reels
SB. 30030 Piccadilly. 3 reels
SB.30028 Romance of Seville. 2 reels
SB.30084 The Blue Light, 4 reels
SB.825 The Marathon Runner. 4 reels
SB.30054 White Hell of Pitz Palu. 4 reels
SB.30470 Charlie at Work. 4 reels

Price **£3 7 4** each reel, plus **1/-** postage & packing

202 UNIVERSAL FILM SPLICER
It incorporates an adjustable dry scraper, scraping block is of hardened steel. Cutting of two ends of film carried out simultaneously and at the same time as the splice is made, therefore reducing the number of operations required.
Nicely finished, black enamelled. Construction and quality equal to pre-war standard. Price **£5 5 0**, p. and p. **1/-.**

R. G. LEWIS LTD. (CINE)

(& at 202, High Holborn) TEL. Chancery 6954.
Showrooms : **38, CASTLE STREET**
Tel. SHREWSBURY 3492.
Offices (To which all Letters and Parcels should be addressed) : **5, Claremont Bank, Shrewsbury**
Tel. SHREWSBURY 3431

BRAND NEW

16mm Ensign Simplex Cameras, automatic threading—open door, push-in film, close door—automatic self-portrait device for any pre-set footage, single pictures, direct and waist finders, geared footage, slim, pocketable, precision. One of the finest magazine cameras made. Ideal ladies too. Carton, instructions, f/3.5 **£28 15 0** Dallmeyer, f/2.9 focussing .... **£36 15 0** Also few f/1.9 models.
1,000w. Transformers, for any 750w. Talkie, latest sound purity quality. Write.
200B, G916, 750w., and other transformers, for silent projectors. Finest made.
Synchronous talkie motors, ball-bearing (as used in many "A.C.W." conversions), essential for constant true speed purity. Pre-war 12 gns..... .... **9 gns.**
Chromium motors, for screen curtain automatic open close, projectors, rewinders, etc. Finest quality, reversable **£6 17 6**
16mm. Spools, 1,600ft., strong sided.... .... **21/-**
1⅞" Mounted Condensers, more light **21/-**
8-Teeth finest 9½/16mm. sprockets **21/-**
Zeiss Ikon Maltese Talkie, 16mm., beautiful super machine; Vox Talkie; Zeiss Ikon 16mm. Movikon Camera; Pathe H Telephoto; Ditmar Telephoto; U.S.A. spiral prjtr. lenses, 4", 3½", 2"; Talkie prjtr. stands; Seimens Rangefinder Camera; Movikon Magazine; Kodak Telephoto, wide-angle; Kodak Filters; Pathe H Cameras; microphones; exciter transformers; 50 x 40 screens, auto; Vox amplifier; chrome bolts 3/6 doz.; milled screws 3/6 doz.; 8mm. Excel prjtr.-films **12 gns**; lamps; switches; De Vry spare motor.

EDWIN GORSE
86, Accrington Road, Blackburn

PAN and TILT TRIPODS
PROJECTOR LAMPS
" LENS
" CONDENSERS
" SPROCKETS
" *MOTORS

*These are ex talkie makers' surplus stock. New, made by G.E.C.

SCREENS 40"×30" to 72"×96". Delivery ex stock. Other sizes to order.

CAMERA LENS T. T. & H. "Cinar" F3.5, fixed focus. Standard thread, new, under 1939 list price.

Owing to daily change in stocks, lists of second-hand apparatus cannot be advertised, but your enquiry (include stamp) will receive my personal attention.

HEATHCOTE
302, Radford Rd., NOTTINGHAM

I.A.C. INSTITUTE OF AMATEUR CINEMATOGRAPHERS I.A.C.
"Valeda", Wildernesse Av., Sevenoaks, Kent
The organisation for all cine amateurs—lone workers and societies. Annual Subscription: Members 10/6, Affiliated Societies 21/-. *Write for copy of "Amateur Cinematography in War Time"*

We suggest you consult your local public librarian, telling him your requirements. As you may be aware, any local library is in touch with the National Library organisation, and can secure for you on loan any textbooks on any subject you wish to study.

Meanwhile, as brief comments on your suggestions, we offer the following remarks :—

Your use of the words, "flicker sector," is wrong. The sector of the shutter which covers the shift of the film from frame to frame is known as the "picture sector." The "flicker sectors" are the additional blades (or the additional revolutions of the main blade) which give additional stoppages of the light, while the picture is stationary.

This is necessary because, while a picture change sequence sufficient to give an illusion of movement can be obtained with a frequency of 16 frames or more per second, there will be an appearance of light flicker unless the light is additionally blanked out so that the eye is subjected to an alteration of intensity at the rate of at least 48 times per second. This phenomenon can be examined by running a normal projector slower than normal.

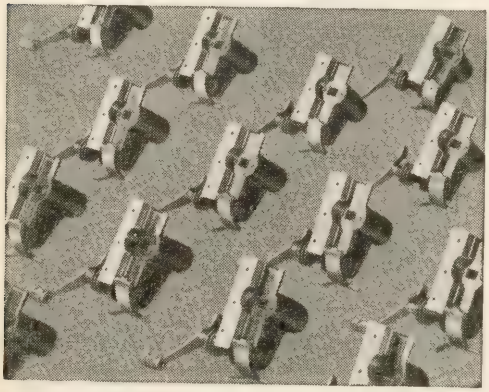
Your speeded shutter movement will not be efficient if it takes less time than the film takes to shift downwards and rapid obscuration must be accompanied by rapid film shift. At the same time, "snatching" of the film must be avoided, and its movement must be accelerated at the beginning and decelerated at the ending of the pull-down movement.

Whatever the focal lengths of condenser and mirror they must be so arranged as to converge the light beam into a patch which will just cover the gate aperture. This can be the matter of practical experiment if you are using "casual" components. A 4-inch condenser would appear to be excessively large, requiring a relatively enormous distance between light source and film. The focal length of a single condenser lens is usually roughly equivalent to its diameter.

In the type of carbon arc lamp shown by you there is grave danger of the front jaws interfering with the passage of the light beam and giving uneven illumination. It is preferable for the front carbon to be vertical. We think it would be preferable to use a normal projection lamp. If it is run at a slightly lower voltage than its true rating (e.g., use a 210 volt lamp on a 200 volt supply) it will have a considerably enhanced life with very slight loss of light.

Your electric motor speed can be controlled by means of a resistance with a sliding contact. As you give no characteristics, we cannot specify the value of resistance to use, but a local electrician could help you here.

Is YOUR name on our Lists?



FILM TRANSPORT

Specto Ltd. are masters in precision construction which means avoidance of film wear and complete interchangeability of parts for easy servicing.

for HOME CINE PROJECTORS and CAMERAS

Events move fast and like every progressive manufacturer, we have been carefully planning to meet the urgent demands of the post-war period.

May we ask for your co-operation? If *your* name is not yet on our Lists we will greatly appreciate your writing us NOW, so that we can send you early information of Specto peace-time products (*Home Cine Projectors and Cameras*), which will incorporate many special features and refinements assuring maximum efficiency and service.

SPECTO Ltd.

WINDSOR

TALKIES

16 mm. and 9.5 mm. FOR HIRE

A quarter of a million feet of first class sound film

1/- PER REEL PER DAY

Minimum period — 4 days

COMMENCING SEPTEMBER 1st all hire charges shown in our issued catalogues will be reduced to the above rate.

BOOK YOUR PROGRAMMES NOW

CROOKES

CINE-SOUND FILM LIBRARY

51, NORTH MARINE RD., SCARBOROUGH

ADDITIONAL SERVICE: *Scarborough is a fine seaside resort, why not spend your next holiday with us on the sea front? Brochure on request to Mr. & Mrs. W. Crookes "Ingleboro," Queens Parade, Scarborough.*

REWINDERS for 16mm. 1,600ft. spool £3 15 0
for 8mm., 9.5mm. and 16mm. £4 15 0
EXTENSION ARMS for 200B, per pair 8 6
HUMIDOR TINS 9.5mm. and 16mm., 400ft. capacity, per doz. 13 6
METAL SPOOLS, 16mm. 400ft., per spool 2 6
9.5mm. 900ft., per spool 11 6
METAL SPOOLS AND CANS, 16mm. 1,600ft., per spool and can 27 6
16mm. TALKIE NEWS REELS, 400ft. films £3 10 0
PATHESCOPE 'S' SUPER 9.5mm. FILMS, per reel 35 0

FILM HIRE LIBRARY

16mm. TALKIE & 9.5mm. TALKIE

Latest releases and attractive Hire Rates.

FRANK E. JESSOP *The Leicester Dealer*

4, OXFORD STREET, **LEICESTER**

S.P. Wundatone type Gearboxes, Film Sprockets 16 and 9.5, Gates, 1,600 Spool Arms, Sound Drums, Super Vox Worm Wheels, Pulleys. We specialise in Cinematograph Engineering, Milling, Gear Cutting, Grinding, Pressing, Turning, Welding, all metals.

O.K. AUTO'S, Scientific Engineers, 12, JAMAICA ST., BRISTOL, 2. 'Phone : 23882.

A Screen for Amateur Projection

Q. *Which is the best and brightest type of screen for amateur projection, size about 40" x 50", or 40" x 30"? I have noticed references in A.C.W. to "Plastic" and "Beaded" screens. My projector is a 200B.*—E.O.

A. Screens for sub-standard use are of three types, white surfaced (matt), "silver" surfaced and bead surfaced. The term *plastic* is merely a trade name, used in the sense that a picture which displays full modelling is said by artists to have a truly plastic effect.

White screens give the best general rendering of tonal values but a lower general level of reflection. They reduce apparent graininess to the minimum.

Silver screens increase the apparent contrast of the picture, give a high peak reflection to a narrow section of the audience at or near the axis of projection but a rapid fall off at the sides. Bead screens have similar effects with a claimed higher peak reflection and rather less fall off at the sides.

Bead screens are least satisfactory from the wear point of view, the beads tending to strip with constant erection and packing, while the material tends to take up a corrugated aspect if kept rolled up for long periods. Both bead and silver screens, because of their high directional properties, show extremely any unevenness of the surface when erected.

For the best use of weak light, when you can place your audience long and narrow, use bead or silver screens. For the best quality and with broad audiences, provided plenty of light is available, use white screens.

Amateur Films on Accident Prevention

A number of films on accident prevention, made by amateurs for the R.S.P.A., have recently been reviewed by the Education Panel of the British Film Institute. Of "The Kerb Drill," 150ft., 16mm., colour, by G. Wain, F.R.P.S. (who contributed to "A.C.W." an account of how the scheme came into being and the production methods involved) the Panel writes :—"The children in this production are rather camera-conscious and tend to over-act, but the film achieves its purpose of putting across the elementary rules of kerb drill, and small children could learn a considerable amount from it."

"Salford Safety First," 958ft., 16mm., colour, produced by the Chief Constable of Salford, is commended as "an interesting and well-photographed production. It has plenty of life and in many ways is most effective," but, in the opinion of the Panel, shares a failing common to so many amateur films, is that it is far too long. There are shots which would be well cut out altogether (the appraisal continues), but which ones are not specified. More constructive is the suggestion that a sequence on cycling could with advantage be made into a separate film.

ACTINA
"DUOWIND"
FOLDING REWIND FOR
16 mm. and 9.5 mm.
COMBINED
takes spools up to 1600 ft. and folds compactly when not in use (to 15" x 4") also . . .
SPOOLS & CANS 1600 ft. 16 mm., 800 ft. 16 mm., 400 ft. 16 mm.
UNDISTORTABLE IN ENAMELLED STEEL
Send for detailed list to
19, WOODSTOCK ST., LONDON, W.1

To keep you informed of
Services, Apparatus and Accessories as they become available, and to pass on useful information and hints, we are to circulate to Subscribers
INFORMATION SHEETS
and an Art Canvas Loose-leaf Binder to hold them, thus building up a valuable reference book. Subscription covering Binder, Foreword, Home Processing, and the first 12 sheets to be issued : **5/-.** First issue about August, but PLEASE REGISTER NOW by sending your name and address to :—
MICROFILMS LTD.,
31, Albert Square, Dundee
The firm for Cine Film Processing

MID-CHES
FILM LIBRARY
16mm. SOUND Section, send for new Catalogue, including the new Technicolor Series. Price 6d.
8mm., 9.5mm. and 16mm. Silent Section, send for new Catalogue, Price 6d. mentioning make of Projector.
40, High St., NORTHWICH, CHES.
Grams. and 'Phone - - 2506 Northwich

16mm. SOUND FILMS FOR SALE
17.5mm. Talkies Converted to 16mm.
16mm. Talkies Bought and Sold.
Repairs to all types of sound and silent Projectors can now be undertaken.
P. F. WILSON, (17.5mm. Specialist)
17, ROBERTS ROAD, WALTHAMSTOW, LONDON, E.17. *L 4Rkswood* 1473.

PROJECTOR DEPT.
Wundertone, 16mm. Talkie, S.M.P.E. 1,600ft. arms. 300watt. lighting, complete **Part exchange only.**
Pathe " H " with Sound Head, Amplifier Speaker, Gram turntable and pick-up. Outfit complete in two cases **£80 0 0**
Ensign, 16mm. Silent Projector, 200 watt lighting, complete in case **£18 18 0**
Agfa Titler with founts of letters, assorted sizes, less lamps **£9 9 0**
Pathe " H " Projectors can now be fitted with **200 watt** lighting, giving 3 times standard illumination. Send stamp for particulars to **Dept. L.**
" SOUND CRAFT " Sound Heads
A limited amount of orders can now be accepted for " Sound Craft " Sound Heads and Amplifiers to be fitted to Pathe " H " and 200B. projectors. Send stamp for particulars to **Dept. S.**
COLIN CAMPBELL, Sidcup Cine Service
246, BLACKFEN ROAD, SIDCUP, KENT.
Phone : ELTham 3248. *Bus Routes* 132 & 241.

For high grade 16 mm. sound motion pictures
Full Length Feature Productions
Comedies : Cartoons : Technicolor
Travel and Serials
We apologise for the delay in the issue of our new catalogue which was due to printing difficulties. This is now ready, price 6d. and all previous enquiries are being dealt with.

DAVIS SOUND FILM EQUIPMENTS
3, HIGH ST., MAIDENHEAD, BERKS.

Film Library
9.5 mm. Silent and Sound
16 mm. Sound
Comprehensive List 7½d.
Bristol Cine Service
33, ALMA VALE RD., BRISTOL, 8. *Tel. 33243*

9.5mm. SOUND FILM LIBRARY
Attractive rates, excellent condition films, Lists 2½d.
FOR SALE. Precision 200B Soundhead, with rotating drum scanning, heavy balanced smoothing flywheel, projected slit optical.
Conversion supplies, Sound drums, sprockets, idler rollers, opticals, flywheels, etc. Stamp for List.
HATTON, 33, Leckhampton Rd., Cheltenham

CLASSIFIED ADVERTISEMENTS

Rates : 6d. per word (minimum 6/-). Box number 1/- extra. All advertisements must be prepaid. The latest date for receiving small advertisements for the Sept. issue is Aug. 4th. Replies to Box numbers to be addressed c/o "Amateur Cine World", 24, Store St., London, W.C.1.

FOR SALE

Travelling Cinema Units available for hire any part of country, contract work preferred. First class equipment Bell Howell Filmosound Projectors, 750 watt lighting, wide range lenses, beaded screens all sizes, fully trained experienced Operators, highest quality reproduction for audiences up to 1,000. Write full details Box 737.

Wundertone Conversions. S.M.P.E. Sound Drums, 1,600ft. Spool Arms. Gear Boxes reconditioned. Spares, etc. Overhauls. By actual builder. Wundertone Silent for sale. Box No. 738.

Instrument making, small parts or complete equipments made, built or repaired. Any threads, milling, grinding, etc., to fine limits, electrical mechanical or optical. Quotations against sketches. Forster, 28, Henray Avenue, Blaby, Leicester.

Enlargements, 8½ x 6½, 6½ x 4¼. From 3½ x 2½ and miniature negatives. Limited materials. Write stamp, particulars. R. Hobbs, 83, Curling Crescent, Glasgow, S.4.

Monomarks. Permanent London address. Letters redirected. Confidential. 5/- p.a. Royal Patronage. Write Monomark, BM/MONO5E, W.C.1.

G.B. K.16 Sound Projector in excellent condition with 50 mm. and 35mm. lenses. What offers ? Box No. 730.

16mm. Sound Films for sale. S.M.P.E. Nearly all brand new. Also Pathe Super Vox Talkie with screen, two spare lamps, resistance, 21 reel films, splicer, etc. S.A.E. for reply. Newby, 31, Studfield Grove, Sheffield, 6.

16mm. 100ft. Kodachrome 1944 for sale. Helena Seifert, 22, Pinewood Avenue, Northbourne, Bournemouth.

G.816 Bolex projector in case with all accessories, spare lamps, 16mm. O.G.5, etc. Best offer. Lyle, Cotswold, Kentish Lane, Hatfield. Potters Bar 3072.

Library 8, 9.5, 16mm. Silent, Sound. 9.5mm. Sound, Silent for sale, new or used. List 1/-. Screens, etc. Lists 3d. Films. 84, High Street, Oldhill, Staffs.

9.5mm. Library. Sound Features available, good selection silents. List of titles 3d. Thomas, 20, Holmes Grove, Henleaze, Bristol.

Two R.C.A. Victor 16mm. Sound Cameras, Studio amplifier, Microphone, stand, tripod, studio floodlights on stand, 100ft. power driven developing drum, drying frame, 6-100ft. Kodachrome sound film unexposed, 10-100ft. black and white ditto. The above is complete and in new condition. Offers to Bird, "Rosslyn," Ledborough Lane, Beaconsfield, Bucks. Phone Beaconsfield 1200.

Bolex G916 Projector with case, screen, etc., for sale. £45. Box 739.

200ins. Soundhead for sale S.A.E. for full particulars and photograph. 9.5mm. sound films for sale, also a super 9.5mm. rewind bench 900ft. capacity. 1, Frithwald Road, Chertsey.

Gaumont British 16mm. Projector and Sound equipment and all accessories, including spare set of valves, re-winder and splicer. Price £225 or offer. Cornwell, 4, Park Drive, Hastings.

Todd Tanks, 30ft. also 100ft. 9.5mm. quantity chemicals. Pathe "H" camera f/2.5, variable speed with film, unused. Offers. Wanted 16mm. rewind; SB films, Ampro model "U" or similar, purchase or part exchange model "N." 104, Alexandra Road, Parkstone, Dorset. Parkstone 2511.

9.5mm. Sound Film Library, first-class selection and grand entertainment. List of titles 6d. Wallace Heaton, Limited, 127, New Bond Street, W.1.

16mm. Sound Library for sale. Stamp for list. 103, St. James Road, S.E.16.

GB. Talkie Newsreels 50/- each ; wanted 9.5 or 16mm. (F/1.9) camera also 9.5mm. unexposed films. Raymond Snowden, Cowling, Keighley.

Continuously rated enclosed ventilated D.C. Generator 220 volts—new, never been used. £25. Apply Box 747.

Kodascope A 250 watt projector, as new. Cost £60. Offers. Trix T.140 10 watt amplifier £12. Box 742.

Pathescope 200B, superlite lens, resistance, new condition, £40 or nearest. 10, Elm Grove, Forest Hall, Northumberland.

Soundhead Bolex G Series, superb job, adapt other makes, many ideas. Large arrangement drawing 15/-, complete set 13 drawings £1 15 0. All parts fully detailed. If details required S.A.E. Box 744.

Soundhead 200B new with photo-cell £12 10 0. Cinecraft Titler new extra founts backgrounds £5 10 0. Rewinder geared 9.5mm. 400ft. 35/-. Pocket altimeter Barometer £5 or offer. 9.5 and 16mm. idlers 2/- each. S.A.E. details. Box 745.

Bell Howell Filmosound Model 120, 750 watt., complete with canvas covers, spare set of valves. lamp exciter, perfect reproduction. £575. Box 746,

8mm. Cine Reels, 200 ft. Enamelled Steel. Price 3/6. Henry Jacobs & Co., 70, Charlotte Street, London, W.1.

WANTED

Wanted late model good condition 16mm. sound or silent projector (400 watt minimum) cash or part exchange Bolex DA ; Leica 12in. Dallmeyer Telephoto, Leitz Reflex attachment ; filters ; Vidom. Box 740.

Wanted 16mm. projector, sound or silent. Full particulars and price to Matthews, 75, Longdales Road, Lincoln.

Wanted S.S. or H. films 9.5mm. for Cine Moto-camera. Box 733.

Works Manager required. Must have fullest technical knowledge design and production of cine camera and cine talkie projectors, home and professional. Able to start production organisation from scratch. Write giving fullest details of experience, age and salary required. Box No. 732.

16mm. gate and claw mechanism complete and working ; also C.K.S. lens adaptor taking standard thread. Box 731.

16mm. Some Panchromatic film wanted for baby of soldier abroad. All offers welcomed. State price. Helena Seifert, 22, Pinewood Avenue, Northbourne, Bournemouth.

Wanted 8mm. Cine Camera (Kodak or Eumig preferred). Price and full particulars to Box 734.

Wanted Bolex G.916, late model preferred, 900ft. arms, transformer. J. Shelton, New Road, Bromsgrove.

Wanted 8mm. and 16mm. silent and sound films ; good condition only. Good prices paid. Frank E. Jessop, 4, Oxford Street, Leicester.

16mm. Sound films wanted. Features and Shorts. Would consider the purchase of a complete Library. Box 735.

Gebescope L.516 or Filmosound wanted. Also Bolex G.916 or G.3 projector and Cine-Pan. Tripod. Box 736.

Bolex 9/16 or 200B Plus Projector wanted. Freeman, 15, Robsland Avenue, Ayr.

Amprosound N, latest version (1939) 10w. sound, almost unused and exactly as new. Would part exchange for Model U, L, or Filmosound Utility. Also required 16mm. short musicals, Castle Thrills (sound), claw for "Vox" (your price). Radio Relay, Cowling, Keighley.

Pathe Super Vox or Vox. Perfect condition. Reasonable price. "Listergate," Terrington-St-Clement, Norfolk.

8mm. Camera required, good model only, turret head preferred. Also projector Bolex G3. Geoffrey's, 10, Jamaica Street, Glasgow.

Cash offered for good condition Bell Howell or other first class 16mm. silent projector. Box 741.

Wanted. Telephoto lenses, 100ft. or 200ft. spool chamber, Reflex Image Magnifier, all for Cine-Kodak Special. Required for work of national importance. Write BCM/KINO, W.C.1.

Sound Projector wanted, Bell & Howell preferred, one requiring attention not objected to, providing price accordingly, also 16mm. sound films, colour preferred. Please state price required as I have no interest in offered wanted. Box 743.

Wanted Cine Camera 9.5mm. good make and order. Details and price to Watson, "Woodlea," Whitehaven Road, Workington, Cumberland.

HELIOS

ANNOUNCEMENT

"The existing acute shortage of special lamps, and PROJECTION LAMPS in particular, cannot possibly be aleviated this year, even in case of complete cessation of hostilities."

This is the unanimous opinion of Lamp manufacturers of this country and America, with which we agree.

We advise, therefore, all Cine Lamp users to secure **NOW** whatever lamps happen to be available.

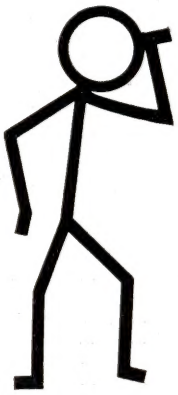
IF WE CAN HELP YOU IN SECURING THE PROJECTION LAMP YOU REQUIRE NOW, OR WHICH YOU MAY REQUIRE LATER, WE SHALL BE HAPPY TO DO SO.

HELIOS

6, Angel House, Pentonville Road, London, N.1.

Phone : TER. 2256 and 2257.

THINGS ARE LOOKING UP!



and we hope it won't be long now before we can more easily meet our client's requirements. MEANTIME, we carry as wide a range of equipment and accessories as conditions permit, and although we cannot yet issue stock lists, shall be pleased to quote for any required items if available or obtainable. **FILM HIRE.** Competitively priced services in 9.5mm. Silent, 9.5mm. Sound, 16mm. Silent, and 16mm. Sound, including Technicolor. Our Libraries have recently been improved, and augmented, with no increase in rates. New Lists free on request, if type required mentioned. WE STOCK Silver and Crystal Bead screens; radio valves; Speakers; Amplifiers; Gramophone Pick-ups; Projection Reels and Cans; Projection films; Photo-electric Cells; Rewinders; Microphones; Lenses; and many useful Cine Sundries. As no Lists please mention definite requirements.

AMATEUR CINE SERVICE LTD.,
44, WIDMORE RD., BROMLEY, KENT.
Phone : RAVensbourne 0156. Open 9 a.m.-6 p.m. including Sat. Close 1 p.m. Wed.

WANTED!!

FOR CASH

$3\frac{1}{2} \times 2\frac{1}{2}$ and $4\frac{1}{4} \times 3\frac{1}{4}$ in.

REFLEX

CAMERAS

TELEPHOTO

LENSES

Also **ENLARGERS**

(VERTICAL OR HORIZONTAL)

Send for valuation, cash offer by return. Cheque sent immediately on acceptance.

SANDS HUNTER & CO. LTD.,

37, Bedford Street, Strand, London

Established in 1874

E. G. TURNER

SCREEN MAKER

20 page Catalogue Post Free 3d.

43–49, Higham Street,
WALTHAMSTOW, E.17

Cine Market Place

CINEMART

Everything that is still available for Cine or Photography can be had from *us, and many items from us only.*

New Equipment Offers :

SCREENS

Beaded 46 x 36 roller type	£4 12 0
Beaded 24 x 18 „	18 6
White 80 x 36 „	£9 18 6
White 46 x 36 „	£2 7 6
White 36 x 27 „	£1 15 0
White 60 x 45 „	£3 12 9

All above Screens have Side Stretchers

TRANSFORMERS

200 watt, input 200/250v, output 110/120v.	£3 0 0
300 watt „ „ „	£3 17 6

Kodak Projector Carrying Cases, black leatherette, nickle fittings, size 12½ x 10½ x 7 fits many projectors £2 5 0

SPOOLS

16mm. 1600ft. £1 5 0 ; Cans for same	£1 5 0
800ft. 12/6 ; Cans for same	12 6
400ft. 4/6 ; Cans for same	2 0
9.5mm. 300ft.	4 6
8mm. 200ft. Alum 3/6 ; Cans for same	2 0

Lamps available for most projectors, large selection of 30, 60, 200, 300ft. Pathe 9.5mm. silent and sound films

Rewinder, Geared. 1,600 ft. capacity. 9.5 or 16 mm.	£6 17 6
Besbee Rubber Title Letters, new	£1 10 0
Splicer for 9.5mm., new	15 0
Manual of Direct Disc Recording	2 0
Mirrors silvered on surface, ⅞" x ⅝"	1 6
Loudspeaker Cable, 3 core, per ft.	6
Screen Cable for Mikes, etc., per ft.	6
Zeiss 2.7 25mm. Lens, no flange, S/H.	£3 0 0
Dallmeyer, 2½" projection Lens, f/1.65, barrel 1⅜, S/H.	£5 0 0
C.M. projection lens, 2", 1⅛" barrel, new	£4 5 0
Cinephone Projector converted to sound on film, complete, requires attention	£65 0 0
Pathe 9.5mm. sound film, "I Yam What I Yam"	£2 10 0
„ „ "Vim, Vigour and Vitality"	£2 5 0

Postage extra in all cases

WANTED all kinds of Cine Equipment for cash or exchange.

CINEMART, Cine Specialists
7, The BOULEVARD,
BALHAM HIGH RD., BALHAM, S.W.17
'Phone : Streatham 5057

Camera Craft LIMITED

CAMERA CORNER, PALMERS GREEN, N.13. *Telephone : Palmers Green 6828/9*

NEW LENSES

2in. Cooke f/3.5 (Cine 35mm). Lens	£5 5 0
3in. Cooke f/3.5 (Cine 35mm.) Lens	£6 0 0

PROJECTION LAMPS

Home Movie Lamp, 18v. 0.5 amp	7 1
50 volt 25 watt A.S.C.C.	8 0
Lamp for Pathe Ace Projector	5 9½
250 volt 100 watt pre-focus 32mm. diameter bulb	£1 0 11
100 volt 100 watt do. do.	£1 0 11
115 volt 100 watt do. do.	£1 0 11
110 volt 300 watt do. do.	£2 6 3
250 volt 250 watt do. do.	£1 17 5
200 volt 500 watt do. do.	£2 4 6
6 volt 72 watt do. do.	£1 0 6

LANTERN LAMPS

250 volt 500 watt pre-focus Class A1 bulb, 64mm. diameter	£2 4 6
110 volt 500 watt do. do.	£2 4 6
210 volt 500 watt do. do.	£2 4 6

SCREENS IN STOCK

46 x 35 **Compact Glass Beaded**	£6 1 0
46 x 35 **Silver Screen** with Side Stretchers	£2 1 6
46 x 36 **Witelite**	£1 18 6
46 x 36 **Glass Beaded** with Side Stretchers	£3 9 0
60 x 45 **Glass Beaded** with Side Stretchers	£6 9 6
60 x 45 **Silver Beaded** with Side Stretchers	£4 5 6
60 x 45 **Compact**	£8 2 0
72 x 54 **Glass Beaded** with Side Stretchers	£7 19 6
72 x 54 **Glass Beaded** with Side Stretchers	£5 13 6
88 x 66 **Glass Beaded** with Side Stretchers	£10 9 0
10' x 7'6" **Glass Beaded** with Side Stretchers	£18 7 0

When PHOTOGRAPHIC
-then TURNERS
For all your Cine requirements
TURNERS (NEWCASTLE-UPON-TYNE) LTD.
The Largest Photographic Specialists in the North
9-11, Pink Lane - Newcastle upon Tyne
Telephone : 22655

Published by Link House Publications, Ltd., 24, Store Street, London, W.C.1. Tel.: Museum 4268. Printed by Arthurs Press Ltd., Woodchester, Stroud, Glos. Agents for Australia and New Zealand: Gordon & Gotch, Ltd., Agents for South Africa: Central News Agency, Ltd. (London Agents: Gordon & Gotch, Ltd.)
Printed in England.

Digitization and post-production completed in the University of Wisconsin-Madison's Department of Communication Arts, with funding from the Columbia University Libraries.

Thank you to Dino Everett for his support in sharing this magazine online.

MEDIA HISTORY

DIGITAL LIBRARY